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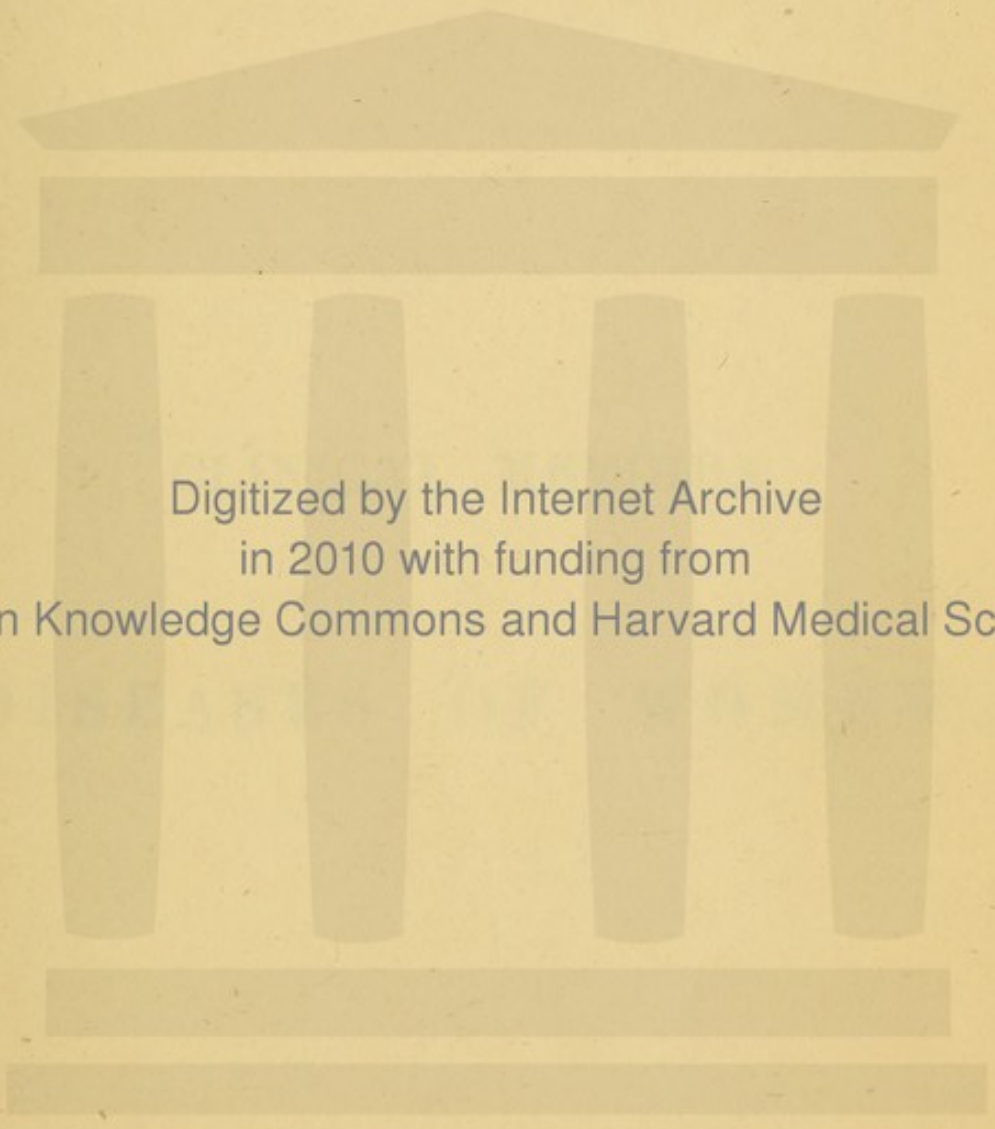
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CLINICAL MEMOIRS

ON

DISEASES OF WOMEN.

CLINICAL MEMOIRS

ON

DISEASES OF WOMEN.

BY

ALFRED H. M'CLINTOCK, M. D., F. R. C. S.,

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HONORARY FELLOW OF THE OBSTETRICAL SOCIETY OF LONDON;
VICE-PRESIDENT OF THE PATHOLOGICAL SOCIETY OF DUBLIN,
ETC. ETC. ETC.

With Engravings.

Medicina tota est in observationibus.
Baglivi.

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TO

CHARLES JOHNSON, ESQ., M. D.,

Ex-Master of the Lying-in Hospital, &c.

AND

FLEETWOOD CHURCHILL, ESQ., M. D.,

Professor of Midwifery, King and Queen's College of Physicians, &c.

THIS WORK IS

DEDICATED:

AS A TRIBUTE OF RESPECT FOR

THEIR HIGH PROFESSIONAL STANDING;

AND

AS A MARK OF THE AUTHOR'S WARM APPRECIATION

OF

Their Friendship,

WHICH IT HAS BEEN FOR MANY YEARS HIS PRIVILEGE TO ENJOY,

AND

ALWAYS HIS DESIRE

TO RECIPROCATE.

PREFACE.

THE title of this work explains its nature and scope. It is based on clinical observation; aims at clinical utility; and is illustrated by original clinical histories.

Whilst my primary object has been to embody some of the fruits of eleven years' experience in the gynecological wards of the Lying-in Hospital, I have, at the same time, been not unmindful of the writings of other authors on this branch of medicine.

With the exception of fig. 13, all the pathological illustrations are from original drawings by Mr. Conolly, of cases under my own care. These drawings were done with that fidelity and execution which pre-eminently distinguish the works of this artist: and they were engraved by the skilful and practised hand of Mr. Oldham.

I must crave the Reader's indulgence towards the

many defects to be found in the following pages. They were written amidst the cares and interruptions of active professional life ; and they would not have been undertaken at all but from a sense of the debt and obligation which the opportunities of an hospital imposed upon me.

I cannot conclude without expressing my thanks to Dr. Humphrey Minchin, of this city, for his kind assistance in correcting these sheets when passing through the press.

21, Merrion Square, North,
9th February, 1863.

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PUERPERAL

PELVIC CELLULITIS.

Of the different names which have been applied to this disease, I prefer the above, given to it by Dr. Simpson, I believe. It points out what are the two leading characters belonging to the complaint, viz.—its situation, and the particular structure or tissue most commonly engaged. To Nicholas Puzos is generally awarded the merit of having been the first to describe the disease. This he does in his memoir on "Milk Deposits;" under which head he includes mammary inflammation and abscess, phlegmasia dolens, pelvic cellulitis, and some other lesions. Each of these he considered originated from the deposit of milk in the part. His account of the disease is very correct, so far as it goes, and his treatment of it judicious; but it is needless to say his opinion as to its pathogeny is purely gratuitous. Puzos died in 1753, and his treatise on midwifery appeared in 1759. Eighty years before this, Richard Wiseman, "Serjeant-Chirurgeon to King *Charles* the Second," described cases of puerperal pelvic cellulitis ending in abscess, and took a more just view of their pathology, attributing them, primarily, to "distempers of the uterus in childbed."

For many years back this affection has been known to, and described by, several French accoucheurs and surgeons. But, (setting aside Wiseman) the first English writers who drew attention to this important subject, and published memoirs upon it, were Professor Doherty (now of Galway),

Professor Churchill (of Dublin), and the late Dr. Lever of London.

Unfortunately it is not in my power to add anything to our limited stock of knowledge of the anatomy of this lesion. In regard to its seat, it may affect almost any part of the cellular tissue adjacent to the uterus. Thus I have seen it most frequently in the broad ligament, at least so far as I could judge; in the iliac fossa; between the bladder and abdominal parieties; between the uterus and rectum; and in every part of the connective tissue around the neck of the womb. Sometimes the tumour extends considerably above the crest of the ilium, and at others it is only discoverable by vaginal examination; and this difference depends partly, no doubt, on the size of the tumour, but mainly on its original situation. The general symptoms do not seem to be much influenced by these differences, but there will, of course, be some variation in the local symptoms.

Though sometimes very exhausting to the patient's strength, and always tedious in its progress, still the disease very rarely ends fatally. Of *seventy* cases of puerperal pelvic cellulitis, coming under my care, I only know of two which so terminated; and in each of these the immediate cause of death was dysentery, apparently brought about in consequence of the abscess bursting into the colon. There may have been one other fatal case, but I cannot positively say, as the woman went from under my observation. The complaint is a more common sequence of first than of subsequent labors. Of *sixty-one cases* in which I noted this circumstance, twenty-eight, or nearly one-half, were primiparous women; though of all the patients delivered in the Lying-in hospital the primiparæ form only one-third. The above proportion is not without a parallel. Of all the puerperal patients dying in the hospital, during the seven years of Dr. Shekleton's mastership, exactly one-half were primiparæ. Nothing could more plainly indicate the greater risk attendant upon first labors. I agree with Dr. West, that cellulitis very rarely results from genuine puerperal fever; but still my experience will not permit me to doubt that it often succeeds to

attacks of metritis, or metro-peritonitis; and Dr. Bennet is of the same opinion. In very many of the cases occurring in the hospital, the cellulitis was evidently an effect of some such illness—the one developing itself as the other subsided. And on making careful inquiry into the history of the other cases, which fell under my observation both in hospital and private practice, I ascertained in a large proportion of them, that within the first few days following delivery there was some form of abdominal inflammation, requiring leeches, stuping, or poultices, &c. For example, of *sixty-two* cases, carefully investigated with reference to this particular point, in *thirty-four* there had been well-marked symptoms of uterine or abdominal inflammation, more or less severe, within the first week of childbed.

The development of an inflammatory pelvic tumour, consequent on an attack of hysteritis as above noticed, may take place very insidiously; and, perhaps, even no suspicion of its existence may be awakened either by the state of the pulse or by the representations of the patient. But as soon as she gets up and begins to go about, then local pain and tenderness draw attention, for the first time, to the mischief that has been silently going on. It is a very important rule, therefore, in all cases of convalescence from uterine or peritoneal inflammation, to examine the iliac regions day by day as regularly as to feel the pulse. By so doing I have on several occasions detected the presence of latent cellulitis, when all the other symptoms indicated the complete subsidence of morbid action.

It is almost unnecessary to observe that premature exertion or exposure will be more likely to induce pelvic inflammation in a patient just recovering an attack of metritis, &c., inasmuch as, where no such attack has complicated the first week of childbed, we know that imprudence of this kind very frequently is the exciting cause of cellulitis. Dr. Bennet tells us that in the Paris hospitals he has often seen the disease contracted in this way. In a few cases (*e. g.* Case 13), sexual intercourse, at an early period after parturition, appeared, by the patient's own admission, to be the exciting cause of

an attack of cellulitis. In another instance a primary cellulitis was brought on by the patient sitting for some time, when thinly clothed, on the stone step of a hall door nine days after delivery. Dr. Heyerdahl of Christiania, when at the Lying-in hospital in the spring of 1859, informed me, that so frequently of late years were patients attacked with pelvic cellulitis after leaving the maternity hospital of that city, that the director deemed it expedient to lengthen the period of their stay in the hospital after delivery, with a view of rendering them less liable to the disease when discharged. This would seem to indicate that pelvic cellulitis is more prevalent at some seasons, and in some years, than others. Such is my own opinion: and I have generally found the disease most frequent when there existed a tendency to puerperal fever—in other words, it was more common in unhealthy seasons.

Whether occurring as a primary or secondary affection, it seldom makes its first appearance after the month of childbed has passed over. It may occur at a later period, of course, inasmuch as it may attack any woman and at any time; but, as a general rule, when originating out of parturition, it does so within four or five weeks. The sex of the child, the age of the woman, whether she suckles or does not suckle, are circumstances which do not seem to have any influence upon its production. Upon this last point my opinion is totally different from that of M. Grisolle, or of Dr. Bennet who states that "one of its most frequent causes is the sudden arrest of lactation, however it may originate." Women belonging to the class of society here from which the hospital patients come are always most anxious to nurse, and persevere in the attempt to do so in spite of every thing. On a few occasions, too, I have known them continue to nurse when laid up with cellulitis, and even after suppuration had taken place. A very large proportion of the patients affected with cellulitis did not nurse, and the reason for this was, that they had no suck, having been seized with some form of puerperal inflammation soon after delivery, which completely arrested its secretion.

When the disease occurs in a primary form, its inception is commonly marked by a rigor, to which succeed local pain and general febrile disturbance. The exact seat of the inflammation varies in different cases, as has been already remarked; but wherever it may be a tumour speedily forms there, and this tumour is one of the most remarkable features of the disease. It forms sometimes with astonishing rapidity; so much so, that its production can only be ascribed to serous infiltration—œdema, in fact—of the loose cellular tissue; mere hyperæmia of the affected part could not adequately account for it; and the short period within which it takes place almost excludes the possibility of its depending on changes in the solid tissues of any of the pelvic organs.

Although in most instances this tumour is discoverable by external examination, still without vaginal exploration we cannot tell whether the parts adjacent to the cervix are affected or no. In two or three instances the tumour was immediately above the pubes and right in the median line. In a few instances no hypogastric tumour whatsoever could be felt, but internal examination revealed the existence of a tumefaction adjoining the cervix. In *twenty-seven* of my cases the tumour was situated in the *right* iliac region; and in *thirty-four cases* it occupied the *left*; whilst in *three* instances both sides were successively engaged. In *eight* cases there was more or less supra-pubic tumour, accompanied in most of them with iliac tumour also.

The duration of this disease generally extends over some weeks or months. Throughout this course we can distinguish different stages; and although the transition from one to the next may not be exactly defined, still there will rarely be any difficulty in recognizing the fully developed symptoms belonging to each stage. This division is attended with advantage in the diagnosis and treatment. The hot dry skin, furred tongue, thirst, frequent pulse (100 to 120), with hypogastric pain and extreme local tenderness, all concur to mark the *acute* stage, the duration of which, under proper treatment, is seldom more than some days.

When the attack of cellulitis is a primary disease and not

a sequela of hysteritis or metro-peritonitis, its invasion is marked by rigors and general indisposition, immediately after which we find the symptoms above described developing themselves. Speaking from my own observations, however, this purely idiopathic or primary form of the disease is decidedly exceptional, and generally attributable to some imprudence or indiscretion on the part of the patient. Cases which begin in this manner seldom end in suppuration, as attention is promptly directed to them and energetic treatment is adopted without delay. On several occasions there seems to be no acute stage; the disease coming on in an insidious latent manner, or appearing as an epi-phenomenon of hysteritis or metro-peritonitis. Here the disease when first detected is in the *sub-acute* stage, which immediately succeeds, in the ordinary course, to the first or acute stage. The febrile disturbance has now considerably abated; the pulse has fallen to 90 or 96, when the patient is in bed; and the pain has nearly quite subsided. Still the patient feels weak and languid; has no appetite; and is apt to perspire at night. Little pain is felt as long as she is at rest, though when pressure is made over the seat of inflammation a morbid degree of sensibility is found to exist. So matters may remain for a variable period—a few days or weeks. If the disease is to end in resolution we shall find the symptoms to undergo a further mitigation, or altogether to disappear, and no trace of the inflammation remain but the tumour, which is free from pain or tenderness, and has a hard feel and well defined outline. The disease has now become purely localized, and altogether *chronic* in its character. The removal of the swelling which remains is a work of time and proceeds slowly. In this condition the tumour may remain for a very considerable period; and a not over cautious examiner, seeing it now for the first time, might well be at a loss to make out what it was, or might mistake it for an ovarian tumour. If the swelling be very large, and extend much above the crest of the ilium, this mistake is more apt to occur; but, by a little patient inquiry into the history of the case, such a grave error of diagnosis (which I have known committed) could

never occur. As a general rule the tumour becomes more hard and dense as it becomes chronic, and begins to undergo absorption—the softer and more fluid of its component parts being first taken up. Where the inflammation terminates in the formation of matter, the chronic stage is brief and seldom well marked; the sub-acute symptoms gradually giving place to those which characterize the *suppurative* stage. Sometimes, however, the symptoms of the latter stage make their appearance a considerable time after the patient has seemed to be in the chronic stage of the disorder, and their occurrence then is rather unexpected. At other times, whilst in the chronic stage and going on favorably, the patient commits some indiscretion which induces a fresh accession of acute inflammatory action, as the result of which, suppuration may ensue. A recurrent attack of this kind is rather embarrassing to prognosis, as it may be mistaken for the setting in of suppuration. During the suppurative stage there is a return of pain and a great increase of tenderness in the tumour, together with acceleration of the pulse, loss of appetite, emaciation, occasional chills, and night sweats. The general condition of the patient closely borders on, if it does not actually amount to, that of hectic fever. If this stage be of long continuance, the patient will be reduced to a state of great marasmus, from which recovery would scarcely seem to be possible. Troublesome diarrhœa is not unfrequently present at this period, and helps to weaken and exhaust her physical powers. In the meantime the tumour is found to be enlarging in size, becoming more painful, more prominent, and attached to the integument, and its density diminishing.

Such is a very brief description of the different stages observable in the course of the disease, and the salient features proper to each. It will be readily understood that considerable variations present themselves in the symptoms, which will be also modified according to the particular seat of the inflammation. For example, inability to extend the thigh of the affected side is a symptom occasionally present, and is a source of much annoyance. It is most remarkable when the

patient is up on her feet, for then not only is the thigh flexed, but the trunk is bent forwards. When she is in bed, and lying on the side affected, she finds that she can, with least pain, make an attempt to stretch down the thigh. I agree with Churchill, who particularly noticed it, that where this symptom is present the inflammation is generally seated deep in the pelvis and to its side—that in fact, the subserous cellular tissue covering the psoas or iliacus internus muscle is engaged. This will also occur if the inflammation affect the parts underneath Poupart's ligament, of which Case 3 is a good example. This was a solitary instance; so that we may presume such seat for the disease to be extremely rare. I have never remarked it when the swelling was high up or towards the median line. It deserves, I think, to be ranked among the unfavorable prognostics in this disease, as the cases where it was present were among the worst, one of them ending fatally, and in all suppuration taking place. Where the swelling is posterior to the uterus, more or less rectal uneasiness and tenesmus are experienced. If it be in front of the uterus, and in connexion with the bladder, we may expect to find some degree of dysuria, or, perhaps, vesical irritability. When the inflammatory swelling is low in the pelvis, engaging the cellular tissue around the uterine neck, a sense of fulness, heat, and bearing down will be experienced in the vagina, and some pain on defæcation. In the chronic stage, when all fever and pain have gone, and scarcely any tenderness remains, the patient may continue for a great length of time without any alteration in the tumour, which seems indisposed either to suppurate or to disperse. This delay is very trying to the patience of the invalid, and to the authority of the practitioner, who will probably find much difficulty in persuading her to observe that strict bodily quietude and recumbent posture so indispensably necessary for her recovery. When in this state, if she should chance to be seen for the first time by a practitioner not familiar with this disease, her case might give rise to much perplexity, or be altogether misapprehended.

Suppuration having been established, the matter may

point in different situations, the precise locality being determined, in great measure, by the seat of the abscess. Thus, to speak from my own experience, the abscess may point, 1st, externally in (*a*) the iliac, (*b*) the inguinal (below Poupart's ligament), (*c*) the supra-pubic, or (*d*) the perineal region; 2nd, it may burst into the colon or rectum; 3rd, into the vagina; or, 4th, into the bladder. I have never known a puerperal pelvic abscess to burst into the peritoneum, though on four or five occasions I have seen this finale of pelvic abscesses unconnected with childbed. As regards the frequency of abscess in puerperal pelvic cellulitis, my clinical records show the following results. Of *seventy* cases, *thirty-seven* ended in suppuration with discharge of pus; *twenty-four* of these burst or were opened externally, viz., *twenty* in the iliac region, *two* above the pubes, *one* in the inguinal region, and *one* beside the anus: *six* were discharged *per vaginam; five* by the anus; and *two* burst into the bladder. Now, as to the relative advantages of these different terminations, I am decidedly of opinion, that by far the most favorable way of escape for the matter is externally —in the iliac or supra-pubic regions. The most rapid and satisfactory cures that I have seen were in the cases where the purulent collection so got vent; and, with one or two exceptions, the contraction of the abscess and the cessation of suppurative action went on speedily and satisfactorily. Enormous purulent cysts have thus become obliterated within ten days after the puncture. In other cases, where the abscess was of less magnitude, three or four days have sufficed to bring about the same result. However, things do not always go on so favorably. In Case 12, nearly ten weeks elapsed before the abscess had dried up; and in another, a longer time elapsed before a cure was effected; but, in this instance, the abscess was unusually large and extended deeply into the pelvis. The opinion above expressed, as to the comparative advantages of the abscess pointing externally and internally, rests entirely on my own experience. A contrary opinion is entertained by other writers. M. Becquerel, one of the latest, says upon this point, "The opening which takes place

directly external is, in general, a circumstance much more hurtful than the opening into an organ communicating with the exterior,—the suppuration goes on longer, weakens the patient more, and is more frequently complicated with alteration of the pus, and with putrid infection." When the abscess burst into the bowel amendment was very tedious, and the escape of the pus seemed to be slow and imperfect. (See Case 4.) A great deal of irritation, too, was set up in the rectum, giving rise to frequent tenesmus, and occasionally to dysentery. In the only two fatal cases of puerperal pelvic cellulitis, which have come under my observation, death was apparently brought about by the constant dysentery. In each of them the abscess had discharged its contents *per anum*. From among the many cases of cellulitis recorded in my note book, I select for insertion here a few of the more interesting examples of each of the above modes of termination, with the view of more fully elucidating the course and history of the disease.

Case 1.—*Pelvic abscess; puncture in iliac region; subsequent labors.*

J. B., aged 19, fair hair and complexion, was confined at home of her first child, February 1, 1856. Her convalescence was slow and imperfect; and she was not up till the fourteenth day. A fortnight later she got an attack of pain in the lower belly with fever, for which she was leeched, &c. The very acute symptoms subsided, but a painful tumour remained in the left iliac region. She was received into the chronic ward of the Lying-in hospital, 9th April, in a very weak, reduced state. The pulse was 108, the tongne white and furred, and she occasionally had a chill in the afternoon, and night sweats. In the hypo-gastric and left iliac regions was a hard circumscribed tumour, extending downwards so low as Poupart's ligament. It was extremely tender; so that any movement of the trunk, or forced extension or flexion of thigh, could not be performed without great distress. Some of these symptoms looked as if the disease had passed into the suppurative stage. However, as there was so much local pain, half-a-dozen leeches were applied, but without

any good effect. The tumour gradually became larger and more prominent, pointing near to the median line. On 6th May, (about two months from the commencement of the attack), as fluctuation was very distinct, the abscess was opened with a bistoury, and a large quantity of purulent matter escaped. From this time forward her improvement was marked and rapid, so that in three weeks the abscess had ceased to discharge, and very little trace of the tumour existed. A little time later menstruation came on. Pregnancy did not take place for ten months, and ended in abortion at the end of three months. She again became with child, and was confined at the full time, in June, 1858; her labor and recovery being most satisfactory. In November, 1859, she gave birth to another child, both times being in the hospital, and with equally good results.

Case 2.—*Abscess pointing in median line; subsequent labor.* M. M'P., aged 30, dark hair and swarthy skin, was confined in the hospital of her first child, 31st January, 1857. She was in bad health at the time of her delivery, having had severe diarrhœa with vomiting, for three weeks. She had symptoms of sub-acute hysteritis after delivery, and was kept in the hospital for some days beyond the usual time, but was by no means well when leaving. On 2nd March she again became an in-patient of the hospital, with some pain and swelling to the left of pubes. She has been ailing and generally confined to bed since her return home; and she is now somewhat feverish, weak, and has much tenderness in tumour. The os uteri is found to be rather patulous, and there is some tumefaction to the left side of the cervix. A few leeches were applied above the pubes, with marked relief, and she got repeated small doses of blue pill and extract of henbane. The disease passed into the chronic stage, and syrup of iodide of iron and cod liver oil were successively administered. During the month of April she was kept in bed under this treatment, and she seemed improving in health, but the tumour underwent no diminution of bulk. The first fortnight of May she was much troubled with diarrhœa, and the tumour became painful, and was manifestly extending

across to the opposite side. On the 17th of the month it was pointing in the median line; and on the 27th, I lanced it exactly midway between the navel and pubic symphysis. The discharge was at first considerable, but rapidly diminished, became serous, and in a few days entirely ceased, and she went home. I saw her again in the month of August. Menstruation had not yet come on, and there was still some hardness behind and above pubes; her general health had been very good.

Dr. Barnes (of London) happened to visit the hospital about this time, and I brought this patient under his notice, considering her case an unusual one, on account of the situation where the abscess pointed, and also from the fact, that throughout its whole course there was not any affection of the bladder. The sub-acute, chronic, and suppurative stages of the disease were distinctly marked in this patient's history. There were certainly three or four weeks of chronic stage, when I almost felt assured that resolution would take place. This woman returned to the hospital in labour, at full time, in January, 1860, and was delivered naturally of a living child. Her convalescence progressed in the most favourable manner, and she and her baby left the house quite well on the ninth day.

Case 3.—*Pelvic abscess pointing in Scarpa's space.* T. D., aged 38, was confined in the lying-in hospital of her sixth child, 10th February, 1859, and went home well, but not strong, on the tenth day. Within a week she took a pain in the left groin, lost her appetite, and felt "ill all over." On the 5th March, she was re-admitted to the hospital. In the left flank, and above Poupart's ligament, there is some swelling and hardness, with pain and tenderness. This obliges her to keep her body stooped and the thigh flexed. The tongue is coated in patches, pulse 98; she is thin, and has a wasted, unhealthy aspect. The belly is soft and flat, and there is no fulness or tenderness in any part of the vagina. Six leeches were applied over the tumour, and she got occasional doses of grey powder and Dover's powder; but the occurrence of diarrhœa caused this treatment to be suspended

a few days after it had been commenced. In the beginning of April she was still weak and languid, and the tumour remained as before, but she had no pain in it unless when it was pressed, or when she extended the thigh. Towards the end of the month the diarrhœa returned, and the tumour was becoming more prominent just above Poupart's ligament, and also below it, at the outside of the saphenic opening. 1st May I could discover a fluctuation in the tumours above and below the ligament, the contents of the two seeming to communicate; and on the 4th, I lanced the tumour pointing below the ligament, as it was the more prominent. About six ounces of greenish-yellow pus came away. By this single puncture, both tumours were emptied. From this time forward a very slow improvement took place, interrupted at times by smart attacks of diarrhœa, which kept her very weak. In the course of a fortnight, the abscess ceased to discharge, but still she was not fit to leave the hospital till the beginning of July, though getting quinine, meat, and wine, most of this time.

This is the only case that has come under my observation, where the abscess seemed to extend through the femoral and saphenic openings, and formed a tumour in the crural space, underneath the cribriform fascia. From the experience of others, as well as my own, this would seem to be a very unusual route for the matter to take, in abscesses resulting from pelvic cellulitis.

Case 4.—*Pelvic abscess bursting into rectum, and pointing beside anus.* E. D., aged 21, a slight, delicate woman, unmarried, was confined in the hospital of her first child, 22nd April, 1858. She had accidental hæmorrhage before delivery, and had uterine tenderness, with febrile symptoms, on the third day after delivery. On the tenth day, some erysipelas appeared on the buttocks and one labium. On the 17th May, she left the hospital, though still in a delicate unsatisfactory state. On the 9th June she was re-admitted in a very weakly condition, pulse 100, and night sweats. She suffers much from pain in the lower part of the back; and for some days back she has, from time to time, voided

puriform matter from the rectum, and experienced, at the time, some straining and tenesmus. There is no tumour or tenderness discoverable by external examination in the iliac regions or pelvis. Vaginal exploration ascertained the existence of considerable swelling and morbid sensibility behind and to the left side of the cervix uteri. The uterus itself is very immobile. She was strictly confined to bed, and was ordered cod liver oil and occasional hip-baths. From this time to the beginning of August, she seemed to be going on favourably, and her general health improved. Still there was an occasional discharge of pus from the rectum, preceded and followed, for some time, by considerable tenesmus. She now (in August) began to complain of a constant sense of fulness and weight, amounting to pain, in the anus and perineum, greatly increased when she stands or sits up. This led to a minute examination of the perineal region, when I discovered a circumscribed hardness and extreme tenderness to the right of the anus. On the 15th, these symptoms were still more marked, and, superadded to them, was redness of the integument over the seat of the hardness. Tenesmus is frequently present, and small quantities of pus are occasionally evacuated. By the 27th of the month, there was an obscure sense of fluctuation in this tumour. The late Mr. Cusack (then consulting surgeon to the hospital,) now saw her, and made a large opening by the side of the anus into the abscess, giving exit to a profuse discharge of pus. This abscess communicated with the rectum, just within the spincter, by a minute aperture in the centre of a papilla. Signal relief followed this operation. All pelvic pains and uneasiness subsided, and there was no recurrence of the tenesmus, nor did any more pus come *per anum*. At the latter end of September the abscess was still discharging. About this time she got some return of pelvic pain, which made me apprehensive that another attack of inflammation was threatening. The appearance of the catamenia, some days afterwards, however, dispelled these fears. From this out her recovery progressed most satisfactorily; and when she left the hospital, on the 20th November, to go to London, she was quite well,

and no vaginal fulness or tenderness remained. Three months after this I heard from her, and she continued in perfect health.

This case very strikingly illustrates one point to which allusion has already been made, namely, the inadequacy of the opening formed by nature for the discharge of the abscess into the rectum. In the case before us, an opportunity was afforded of exactly ascertaining the size of this aperture, and as we have seen, it was little better than a capillary orifice. I doubt not that in most of the cases where these pelvic abscesses communicate with the intestinal canal, it is by a small orifice of this kind. In this way can be explained the tardy recovery supervening upon such a mode of evacuation of the abscess. Without internal examination, the exact nature of this case, and the cause of the distressing pelvic uneasiness, would have remained doubtful or unknown, for a length of time, in consequence of the absence of any fulness or tenderness to external pressure.

Case 5.—*Pelvic abscess, discharged per anum; recovery; subsequent labor.* C. D., aged 27, delicate complexion and fair hair, was confined in hospital of her third child, 18th June, 1856. On the third day the ordinary symptoms of hysteritis appeared, for which she was leeched, and got mercurials, with James's powder. The symptoms subsided, and she remained weak, with slight acceleration of pulse. She went home, against my wishes, on the eleventh day. Three or four days afterwards she had a return of pain in the lower belly with fever. For this she was leeched, mercurialized, and blistered, by the direction of a neighbouring apothecary. The pain was removed, but she was left weak and low, with night sweats. On the 9th of August she again became an in-patient of the hospital. She was in a state of extreme debility and attenuation. The pulse was 100, the bowels were generally relaxed, and she had profuse night sweats. There was a well-defined tumour low down in the right iliac region, and also in the uterine region, but a sulcus separates the two, and the latter one would appear to

be the uterus; both are tender to pressure. Internally there was found to be a good deal of fulness and tenderness high up to the right side of the vagina, whilst the cervix uteri is pushed to the left side. She was confined to bed and put on generous diet. Towards the end of the month she began to complain of tenesmus, which led to an examination of the stools, when some purulent matter was seen with the fœculent. She feels better, and the tumour is much reduced in size, and only just perceptible above the right ilio-pubic ligament. Improvement went on slowly till the middle of September, when an aggravation of the symptoms took place in consequence of her making some unusual exertion. In a few days, however, she had recovered from this relapse, and was again progressing satisfactorily. By the latter end of October she was so well as to be allowed to go home, when menstruation made its appearance. All pain and purulent discharge had ceased, her appetite had returned, and she had put up flesh. Some induration, however, remained on the right side, perceptible from the vagina, and above Poupart's ligament. In ten months from this time she returned to the hospital in labor at full time. She was so improved in her appearance, and had become so robust that I could scarcely recognise her. Her labour and convalescence proceeded most favourably. There was still some thickening in the right upper inguinal region, and a feeling of stiffness, which amounted to pain, on forcible extension of the leg.

In this instance, the disease ran a course of about four months; and from the first appearance of purulent discharge till recovery was established, occupied fully one-half of this space. Her restoration to health was complete; and it is not a little remarkable, how soon after this, conception took place.

Case 6.—*Pelvic abscess bursting into intestine; death.* M. B., aged thirty-four, dark swarthy complexion, was confined of her fifth child in the hospital, 29th March, 1859. She went home on the eighth day, seemingly pretty well, but by no means strong. On 26th April, she returned to the hospital suffering under low fever, loss of appetite, and great debility. In the left upper inguinal region there was

a considerable sized tumour, hard and tender. By vaginal examination the uterus was found to be fixed, and there was some hardness and tenderness in front and to the left of the cervix. She was put on small doses of grey powder and Dover's powder, and strictly confined to bed. On 5th May, her medicine was changed to minute doses (gr. 1-12th) of the bichloride of mercury three times a-day. As some appearance of ptyalism showed itself on the 19th, the use of the mercurial was altogether stopped. Little change took place in her symptoms during the month of June; indeed, her general state was less favorable at the beginning of July than it had been at any former period of her illness: she was much reduced in flesh and strength, had occasional attacks of diarrhœa, and the tumour had undergone no diminution of its bulk. July and August passed over much in the same way, leaving her still more enfeebled.

Dysentery and an increase of pain took place in the beginning of September; and, for the first time, some yellow pus-like fluid was observed in the stools. A sensible reduction now took place in the size of the tumour. Acetate of lead and opium were found of some avail in moderating the dysentery; but no medicine that was tried could stop it. The almost total disappearance of the tumour, and absence of pus in the alvine discharges, led us to hope that the disease had expended itself, and that consequently its symptom, the dysentery, would soon cease. This expectation, however, was not to be realized. In her extremely debilitated condition it was plain, that a continuance of the dysentery beyond a very limited period, would, of necessity, prove fatal. She was getting a plentiful allowance of port wine, and the most powerful astringents were being administered. Under this treatment the number of motions in the twenty-four hours was reduced to three or four; the pulse had come down to eighty-four, and she felt somewhat cheered about herself. At this stage she insisted on going home (to Drumcondra), and I did not strenuously oppose it, as I thought the change to the country might have a beneficial effect. Unfortunately such was not the case, for she died from

a fresh attack of dysentery a few days after her return home. It is far from improbable that this was brought on by some imprudence of her own in regard to diet.

There can be no question but that the cause of death in this instance was the dysentery. This was set up by the bursting of the abscess into the lower part of the colon or the upper part of the rectum; and it continued after the abscess was apparently closed.

Case 7.—*Pelvic abscess bursting into intestine; death after second relapse.* Mrs. W., aged about 28, was confined of her fourth child, 4th February, 1860. Her labor was easy; but, within a few days, she was attacked with hysteritis, and was at times quite delirious. This illness was brought on, apparently, by getting out of bed on the second day, and walking into an adjoining room, to see her husband who was dangerously ill. The acute symptoms were got under; and within a fortnight all fever and pain were gone, but a well-defined, hard, tender tumour remained in the left iliac region. She was kept in bed and under treatment till the end of the month, when her general health was very good, and the tumour had greatly reduced in size. During the month of March she appeared to be going on tolerably well, though there was some deep-seated swelling and tenderness in left side, and full extension of the thigh could not be made without pain. In the beginning of April, she had a slight attack of diarrhœa, and as soon as this had ceased she was removed to Howth, as it was thought that a change to the country might be of service. She had been up for several days before this. She now passed from under my care.

On the 6th June, I saw her again, in consultation with her medical attendant, Dr. Bolland; from whom I learned, that some days after her arrival here (Howth) she got an attack of "gastric fever, brought on by over-indulgence in eating and drinking." She is thin and sallow, and has permanent retraction of the left thigh; and in the iliac region of this side there is still some swelling and tenderness. Absolute quietness was now enjoined, and she was made to live strictly according to rule. A blister was applied over

the swelling, and subsequently mercurial ointment. She steadily improved after this; so that in the course of a month she was able to be up, and even to go out. Unluckily, one very warm day in the middle of July, she was tempted to bathe, and remained a long time in the sea: instantly on her coming out she took a severe rigor, and was with difficulty got home. Pain in the left side immediately set in, with fever and diarrhœa; and I was again asked to visit her, in consultation, on the 27th July. She was much worse now than I had seen her at any former period. She was very much emaciated; had aphthæ on the mouth; no appetite; frequent loose stools, always very fetid, and occasionally of bright yellow color. The left thigh is permanently retracted, and there is an indistinct hardness and tenderness on the left side of pelvic brim. From this relapse she never recovered. She became hectic; got dysentery; and passed, at various times, small quantities of pus. She remarked, that when she lay for any length of time on the left side, she felt a desire for the bed-pan; and the motion voided always contained more or less pus. She suffers very much at times, chiefly in the night, from pain in the left thigh and lumbo-sacral region. On the 27th August we had the benefit of Dr. Johnson's advice upon her case; but treatment had no effect in arresting the symptoms, and she sank, wasted to a skeleton, and utterly worn out, on the 9th September.

This case extended over a lengthened period—upwards of six months; and one of its most remarkable features is the fact of two well-defined relapses having occurred, each clearly traceable to imprudence on the part of the patient. Indeed, she was a person whom it was difficult to keep under restraint, being of a very active, impulsive disposition, with a great exuberance of animal spirits. A more impressive illustration could scarcely be given of the necessity for prolonged quietude, and caution in the management of the patient, throughout the entire course of this complaint, and for a considerable time after every symptom of its existence has disappeared. As long as any induration or tumefaction is discernible, as long in fact as any of the morbid products

of the disease remain, the patient must use her liberty with extreme reserve. The common advice, that she may walk or exercise till she feel it causing her pain, is not sufficiently stringent: if she acts up to this, it is certain she has done too much.

The fatal issue of this case is another point that invests it with more than ordinary interest. Purulent matter appeared in the stools up to a very short time before her death, so that it is reasonable to suppose the abscess was still discharging. This, and the case immediately preceding, are placed together on account of their both having had the same result. They were the only fatal cases I have seen of puerperal pelvic cellulitis.

There are yet two events of pelvic abscess of which I have not related an example, viz., the discharge of the pus by the vagina, and by the bladder. Of each of these modes of exit, I shall now give an illustration.

Case 8.—*Pelvic abscess discharged per vaginam; rapid recovery.* A. M'G., aged 32, a small spare woman, was confined at home of her fifth child, in the month of June. She had a rather tedious labour, but was delivered naturally. She recovered badly, and has not been well since; constantly suffering from pelvic pain. She was admitted to the chronic ward of the hospital on 18th November, 1858. At this time she was much reduced in flesh, had a good deal of fever, night sweats, and a disinclination to food. In the right iliac region was a large, hard, well-defined tumour, extending to the median line, and above the level of crest of ilium. This tumour was very tender to pressure, and the seat of continual pain. She was twice leeched after admission, but without any beneficial effect. On 19th December, a copious discharge of purulent matter suddenly came from the vagina, followed by a sense of great relief, and a very notable diminution in the bulk of the tumour. The vagina was syringed daily with tepid water, and she was ordered solution of quinine. By the 28th of the month, all her symptoms had undergone a very marked improvement. The pulse had fallen to 88; the night perspirations had ceased; her appetite was return-

ing; and the tumour was reduced to the level of the brim of the true pelvis. For the last three days there has been no purulent discharge coming by the vagina. A fortnight later the tumour was barely perceptible, and she was free from all uneasiness, and was rapidly regaining strength. Shortly after this she left the hospital.

The only remarkable circumstance in the history of this case was the prompt and rapid subsidence of the disease upon the bursting of the abscess into the vagina. According to my experience, this is not the usual result where the abscess finds a vent in this canal. The following history represents the more ordinary course of events, and thus stands in marked contrast to the case just related.

Case 9.—*Pelvic abscess discharged per vaginam; tedious recovery.* R. L., from the County Kildare, aged 25, dark complexion, was admitted to the chronic ward of the Lying-in hospital, 4th May, 1859. Six weeks ago, she was confined at home of her first child, after a protracted labor. There is a very tender tumour immediately above the pubes; the uterus is fixed, and there is a hardness and morbid sensibility in front of and above the cervix. She has great pain at times in the tumour, and febrile symptoms are present. She was leeched, blistered, and got some doses of blue pill and James's powder, without the least benefit; and I began to fear the disease was in the suppurative stage. About the 10th June, a purulent discharge from the vagina made its appearance, coming very slowly, but in considerable quantity. This was followed, at first, by a very marked remission of the local pain and uneasiness; but this was only of short duration; for within a fortnight, the pain in the tumour returned with increased severity, coming on in paroxysms, generally at night. As opiates did not agree with her, little could be done to mitigate those attacks. The tumour remained stationary; and small quantities of pus were discharged, from time to time, *per vaginam.* No fluctuation could be distinguished at any point in the vagina; and the whole of this canal was inflamed and very tender to the touch. Towards the middle of July, there was some im-

provement in her condition. She was now put on the use of cod-liver oil, and allowed to sit up for a short time every day, in the expectation that this change of position might favor the escape of pus, which continued to be discharged, but in very small quantities. On the 20th August, the report states, that she is much improved in every respect. The supra-pubic tumour has disappeared, and the purulent discharge from vagina has almost ceased. Shortly after this she was allowed to return home.

This patient never had any irritability of bladder, nor tendency to diarrhœa. The former is remarkable, considering the close proximity of the abscess to the bladder: a similar exemption, however, under like circumstances, I have seen on many occasions. The abscess was discharging for nearly three months, and the constant trickling of pus over the vaginal mucous membrane caused much irritation of the part, just as its contact does in the case of the intestinal or vesical mucous membrane.

In the two cases I shall next relate, the abscess discharged its contents into the bladder: they will be found to illustrate the observation last made.

Case 10.—*Pelvic abscess bursting into bladder.* E. D., aged 28, was admitted to the chronic ward of the Lying-in hospital, 30th May, 1860. She states that she was confined in the Coombe hospital, 15th April, of her fifth child, that she went home on the ninth day, not feeling very well, and that immediately afterwards she was taken very ill with pain in the lower belly, with fever. She appeared very ill on admission; the pulse frequent; tongue furred; and the supra-pubic region was the seat of a very painful tumour. Examined *per vaginam,* a swelling and hardness is found in the upper and anterior wall of the vagina, pushing the cervix considerably backwards. The same night blood began to be discharged along with the urine. This state of things continued till the 3rd June, when there was an admixture of blood, pus, and mucus in the urine: there is considerable irritability of bladder, but the tumour is reduced in size, and more free from pain, and she feels altogether better.

On the 5th June, the urine presented the same characters, and the irritability of bladder continued; the pulse had fallen to 80; the tumour was less tender to pressure, internal or external. Improvement went on steadily; the blood disappeared from the urine, and some days later, the quantity of pus became scarcely appreciable. All the symptoms had subsided by the 12th June, and nothing remained but some thickening and hardness behind the pubes, slight tenderness, and some vesical irritability. A week after this she asked for her discharge, and went home quite well, or very nearly so.

This was altogether a very acute case. She was confined 15th April; and on 30th May, blood appeared in the urine, and in a day or two, pus; and immediately after this she began rapidly to amend, so that within three weeks she was the next thing to quite well. I have seldom seen so rapid a recovery following the discharge of a pelvic abscess.

Case 11.—*Pelvic abscess bursting into bladder.* A lady, aged 32, was confined in the country of her third child. Her recovery was tedious; and in the course of some weeks a tumour was discovered behind the pubes and to the left side. This was attended with much local suffering and constitutional disturbance. At the end of several weeks pus began to be discharged from the bladder, causing extreme irritability of this organ, in fact, it was in a state of continual tenesmus; and to relieve the distress so occasioned, opium had to be given in large and frequently repeated doses. For twelve months pus continued to be discharged from the bladder. Recovery took place very slowly, and the irritability of bladder was the last symptom to disappear.

It is hoped the reader will not consider the insertion of these histories needless, or their perusal unprofitable. I have confined myself to the narration of a very limited number of cases, merely selecting those which afforded the best illustration of the salient features of the disease. Although at the risk of being considered tedious, I cannot refrain from here introducing the history of one other case, which derives its chief interest from the occurrence of some unusual circumstances.

Case 12.—*Cellulitis on both sides; abscess on one.* M. G., aged 26, was confined at Howth on the 5th September, 1860, of her second child. She is a tall, slight woman, with dark hair, and sanguine complexion. On the recommendation of Dr. Rorke (of Baldoyle,) she was admitted to the chronic ward of the hospital, 16th October. It seems her labour was easy, and that she was recovering most satisfactorily, when, on the tenth or eleventh day, she returned to her laborious occupation of a washerwoman. The same evening she got pain in the lower belly, and has been confined to bed ever since. She has some fever upon her, and there is a hard, very tender tumour in the left supra-pubic region. Eight leeches were applied over the swelling, and she was put on the use of blue pill and James's powder. She was greatly relieved by the leeches, and, on the 19th, six more were applied. By the 24th, all fever was gone; the tumour is considerably reduced in size, free from pain, and much less tender; feels in every way greatly better; she gets one of her pills night and morning, and equal parts of mercurial ointment and iodide of lead ointment are kept constantly applied to left inguinal region. One week from this ptyalism was induced, and the internal use of mercury was stopped. About the same time she complained of some uneasiness in the right inguinal region; and, on examining this situation, some deep-seated hardness and tenderness were discovered, though nothing of the kind had previously existed. It appeared as though a transference of the disease had taken place from the left to the right side. Six leeches were applied over this new seat of tenderness. For the next six weeks there was little appreciable change in her condition, except a gradual retraction of the right thigh, which she now has to keep always in a semi-flexed position. Towards the middle of January it became manifest that the tumour, which had greatly increased in size, was softening and going to point in the iliac region. On the 2nd February I opened the tumour and gave exit to about twenty ounces of purulent fluid. The sac of the abscess seemed to extend deep into the pelvis, and underneath

Poupart's ligament. The thigh is still retracted, and there is a constant tendency to diarrhœa. She was allowed a generous diet, port wine, and a cold infusion of cinchona made with lime water. The quantity of discharge slowly diminished, assuming a serous character; and in the middle of March she was allowed to get up for a short time each day. On the 1st April she was so much improved that she was allowed to return home, upon condition that she would observe the necessary quietude. There was still a slight serous discharge from the abscess, and some stiffness in the thigh.

This woman had two distinct attacks of cellulitis, which laid her up for more than six months. These two attacks presented several features of marked contrast—(1), the first began eleven days after delivery, being evidently brought on by premature exertion; (2), it was situated in the *left* supra-pubic region; (3), ran a course of seven weeks; and (4), ended in resolution. The second attack (1), came on when the patient was confined to bed, and under the influence of mercury, nine weeks after parturition; (2), the inflammation was situated in the *right iliac* and upper inguinal region; (3) the illness extended over a period of thirteen weeks; and (4), resulted in the formation of a very large abscess. If there be any truth in the doctrine of metastasis, surely this might be quoted as an example! Perhaps the more rational view to take of the case is simply this: that the opposite side was seized with inflammation just as the one first affected was getting well; and that owing to her system being so much reduced by the long confinement, the mercurial course, and other causes, the inflamed part more readily took on suppurative action.

Allusion has already been made to this case as one in which the obliteration of the abscess was a long time in taking place. Perhaps had I tried injections of iodine into the cyst, a cure would have been more rapidly effected. It was one of the very few instances in which the delay would have at all justified the experiment. I freely acknowledge that I have never employed this means, and would not be disposed to do so unless in a very obstinate case.

The fact has been referred to elsewhere, that a patient may have a double attack of cellulitis, as of phlegmasia dolens, or mastitis; first one side being effected and then the other. Now, the above is a very good example of cellulitis successively affecting both sides. Another example, of which I may just mention the leading facts here, was in the person of a young woman whom I saw in 1852, along with Dr. W. O. Barker, of Gardiner's-row. On the ninth or tenth day after her first lying-in, she got a very acute attack of cellulitis in the *right* iliac region, apparently brought on by premature exertion and exposure. By free leeching, mercurials, &c., this was greatly subdued in the course of a fortnight, and she seemed in a fair way toward perfect recovery. About this time she removed a little way out of town, thinking the change of air would expedite her convalescence. Soon after this, however, she was seized with the same symptoms as before, viz.: rigors, fever, hypogastric pain, sick stomach, &c. A very sensitive tumour was now discovered in the *left* upper inguinal region, extending to the mesial line. On examining for the remains of the tumour on the right side, not a vestige of it was discernible. This second illness was treated after the same manner, but not so actively as the former. It also ended in resolution, but ran a much more protracted course than the other. In each of these attacks there was one period when the symptoms and condition of the tumour seemed to leave no room for doubt but that suppuration had taken place; however, there was no discharge of pus that I could discover, and particular attention was paid to this point. The same has occurred on other occasions, so that unless the tumour be actually pointing, I do not altogether despair of its ending in resolution. This patient has borne several children since without having any return of the complaint.

The influence which pelvic cellulitis, whether ending in abscess or not, may have on the fecundity of the patient, or upon her recovery after next parturition, are points of very considerable interest; and the practitioner should be prepared to answer the questions about them, that are sure to

be put to him. Writers upon this disease have passed over these points without comment, or given us very little information upon them. I will, therefore, state the facts which have come to my own knowledge. Of the seventy cases of pelvic cellulitis, upon which this memoir is based, at least nineteen again became pregnant—some once, some twice, some three times or oftener. All went to the full time, had good labors, and, with one exception, convalesced most favorably. Ten of these women had cellulitis ending in abscess discharged externally, or into the vagina, the rectum, or the bladder. These are the only instances that have happened to come under my observation, of pregnancy succeeding to puerperal cellulitis. Had I been able to have traced the subsequent histories of the other women, without doubt the number of instances of recurring pregnancy would have greatly exceeded nineteen. So far as these go, however, they fully justify the conclusion, that puerperal pelvic cellulitis, even though ending in abscess, does not entail sterility, difficult parturition, or bad recovery from childbed. I have said there was one exceptional case which did not convalesce favorably after the accouchment following the attack of puerperal pelvic cellulitis. This case I must beg leave to relate.

Case 13.—*Pelvic cellulitis after two successive labors.* F. K., aged 22, was delivered in the Lying-in hospital, by craniotomy, of her first child, in December, 1856. She recovered very well, and went home on the ninth day. A few days afterwards her husband had intercourse with her. She immediately felt the worse for this, and next day got pain in the lower belly and became feverish. On the 16th January, 1857, she applied at the hospital for relief, and was received into the chronic ward. She was then weak and feverish; the tongue white and furred; she perspired freely at night, and had no appetite. A well-defined tumour existed at the right side, just above the ilio-pubic ligament. This tumour was very tender, and sudden extension of the leg caused pain in it. Six leeches were applied over the swelling; she was strictly confined to bed, and put on the use of

bichloride of mercury. She improved very much in every respect until the 7th February, when her symptoms all underwent an aggravation, for which no cause could be assigned; and I greatly feared that suppuration was going to take place. However, this apprehension was not verified; she again began to amend, and on the 11th March went home, some hardness still remaining in the upper inguinal region. She menstruated three times after going home, and then conceived, went to the full time, and returned to the hospital, in labor, 1st April, 1858. Her labor was very difficult owing to pelvic deformity. She did not recover satisfactorily, and she left the hospital on the ninth day against my advice. After her return home she got pelvic cellulitis, the tumour appearing in the left supra-pubic region. It went on to suppuration and was lanced externally. Four months elapsed before she had recovered from this attack; however, she got perfectly well, became pregnant, and was confined in the hospital, 12th November, 1859. She passed through childbed, on this occasion, without any drawback, and left the hospital on her tenth day, and I have every reason to believe that she continued in good health.

Here the first attack was undoubtedly brought on by too early cohabitation after delivery; and it is not the only example that has come before me of pelvic inflammation induced by the same cause. During a certain period of this attack, the symptoms seemed to indicate that the suppurative process had commenced; yet, the subsequent history of the case clearly shows that if pus were formed it must have been absorbed; and I agree with West, in thinking, that such does take place on many occasions. The second attack of cellulitis was attributable to her own imprudence; and it would probably have ended in resolution had she been submitted to proper treatment. The circumstances under which this second attack occurred, were quite sufficient to account for its production without supposing that there was any predisposition resulting from her former attack. If any such predisposition were engendered, it certainly should have

shown itself after her third labor, which was protracted and difficult; yet she made an excellent recovery.

Although no two of the foregoing cases are alike (for which reason they were selected,) still, even a cursory perusal of them will be sufficient to convince the reader that they possess a strong family resemblance, there being certain well-marked features common to them all. It would have been easy to multiply the number of these clinical histories, had such seemed desirable. Those given will be found to illustrate the principal points of importance in the disease, and, therefore, to have added to their number could only have been a useless repetition.

Let me now offer some remarks upon the *treatment* of this troublesome sequela of parturition.

The first thing is to impress on the patient and her friends that recovery can only take place very slowly; that she, therefore, must have patience and be willing to observe the strict confinement to the horizontal position, which is the most important part of her management, and without which all treatment will prove nugatory. These cases almost always issue in the recovery of the patient, but they extend over a long period—from three to four months being their average duration. Until resolution has taken place, or, at all events, until the tumour has become chronic in the fullest sense of the word, the patient should observe a recumbent posture. I am anxious to urge this point, again and again, on the attention of the practitioner, for I do not think its importance is sufficiently dwelt upon by writers; and it has been my lot to witness sad, nay, even fatal, consequences from inattention to it.

In the acute and sub-acute stages, all our efforts should be directed to subdue the local inflammatory action. For this purpose, there is nothing of equal efficacy to leeching. If anything is likely to cut short an attack of pelvic cellulitis, and to bring it to a speedy and favorable conclusion, it is the local bleeding. Four, six, nine, or twelve leeches, according to the amount of pain and strength of the patient, should be applied over the seat of the tenderness, and repeated if the

pain continues, and the general state of the patient does not forbid the further detraction of blood. Internal leeching (to the vagina or os uteri,) though praised by some authors, should be confined to cases where the inflammation is limited to the immediate neighbourhood of the cervix or vagina. Even in these cases I doubt whether it possesses any advantages over external leeching; it certainly is attended, in the performance, with much greater inconvenience. As auxiliaries to bleeding, linseed-meal poultices, or warm fomentations, may be applied over the lower belly; and small doses of Plummer's pill, or of blue pill, with James's powder (Newbery's,) should be administered. The rigid observance of the recumbent posture, with mental quietude, will, of course, be observed; and the diet should consist chiefly of farinaceous articles or weak broths. Whilst the symptoms present anything of acuteness, there is little room for doubt or hesitation as to the particular course of treatment that should be pursued; the only question that may arise has reference to the degree of activity of this treatment. If the patient's rest be disturbed, small opiates should be exhibited in some form or other. The warm hip-bath may be serviceable at this time, and if given in the evening, it will conduce to repose; but the very greatest care must be used to lift the patient in and out as gently as possible. The temperature of the bath should be 100° Fahrenheit, and she may remain in it from fifteen to twenty minutes, or so long as she finds it soothing and agreeable. If the patient have been recently delivered, syringing the vagina twice a-day with warm water will be attended with advantage, provided it can be done without bodily disturbance, such as would cause pain. Although recommending the administration of mercury, yet, I think, it need not be pushed to salivation. On the slightest appearance of ptyalism, therefore, its use had better be suspended. A case (No. 12), has already been related, where a new attack of cellulitis showed itself whilst mercurial ptyalism was actually present.

In the sub-acute stage the use of the bichloride of mercury has sometimes appeared serviceable, in doses varying from

a tenth to a sixteenth of a grain three times a-day. The way this was usually employed in the hospital was as follows: one grain of the corrosive sublimate was dissolved in half an ounce of tincture of bark, of tincture of henbane, and of distilled water. One tea-spoonful, or a drachm, of this mixture contains the twelfth of a grain of the bichloride, and this dose was given three times a-day, shortly after a meal. If any tendency to diarrhœa existed, one grain of the muriate of morphia was added. Given in this way, I have very rarely found any unpleasant effects from the medicine. I have sometimes seen it followed by an improvement in the symptoms. As the disease approaches more and more to the chronic stage, there is proportionately more room for diversity in the treatment. The continued application of camphorated mercurial ointment, spread on lint, or the daily painting of the surface with strong tincture of iodine; or vesicating it with the common empl. catharidis, may be tried: blisters however, are of doubtful utility. The iodide or bromide of potassium, in decoction of sarsaparilla, may sometimes be given at this time, or a little later when the disease has more of the chronic character. I must candidly confess, however, to having very little faith in the efficacy of the iodide or the bromide of potassium in the class of cases under consideration. In numbers of them they were largely administered, and for a length of time, yet I never could satisfy myself that they really exerted any influence upon the progress of the disease. The swelling here is nothing of a glandular kind, and hence may be the reason of their failure.

When all fever and pain have subsided, and the tumour only remains, tonics, alteratives, deobstruents, &c., may be tried. If there be no tenderness in the tumour mild frictions of iodide of lead or hydriodate of potash, ointments, or equal parts of the latter, and mercurial ointment may be used, but should be at once suspended if the friction cause any pain in the tumour. The treatment will have to be perseveringly employed for a considerable length of time. Great prudence and caution must be used in letting the patient up. This should

not be attempted till all signs of inflammatory action in the tumour have completely disappeared; and should her getting up cause any local pain or uneasiness, the patient must keep very quiet for some days before renewing the attempt. It is certainly desirable to keep the patient under treatment as long as any obvious swelling remains; for whilst the inflammatory products, which form the bulk of the tumour, are present in any quantity, they will form a starting point of inflammatory action under any exciting cause, however trivial.

When the complaint has reached the chronic stage, the tumour will often remain for a great length of time, without undergoing any apparent change. This negative state is very wearisome to the patient, and trying to the practitioner. She is free from pain, has her appetite and feels well; and she unwillingly consents to the restraints which must still be imposed on her. The ointments already mentioned may be rubbed or kept constantly applied over the tumour, and medicines of the tonic class may be administered. Sulphate of quinine, iodide of iron, and cod liver oil, are those on which I place most dependence, alternating or varying them to suit particular circumstances or idiosyncrasies. If the pulse will bear it, and the state of the tongue do not prohibit it, the patient may have a generous diet, with a moderate allowance of draught ale or porter, or of wine. The grand object now should be to invigorate the system, and so improve all the organic functions; but there is danger of our over-doing this, and hence the effects of tonics and of full diet, must be carefully watched. If her removal be safe and practicable, she would derive great benefit from a residence in the country or at the sea side. Pure air is the best of tonics, and this change if safely carried into effect, would, without doubt, powerfully conduce to the restoration of her health.

It is almost needless to say that the reappearance of the catamenia is not to be expected during the active continuance of the disease. But this discharge has occasionally come on towards its close, in the chronic stage of which we have been speaking, and this is always to be looked on as a most favorable symptom. The cases where this took place all ended in

recovery and had no relapse. The reiterated cautions I have thought it necessary to give against using bodily exertion of every kind, apply with still more force to sexual intercourse, which should be strictly prohibited for even a longer time than standing or walking about. The reasons for this are sufficiently obvious, and it is plain that what is capable of proving an exciting cause of the disease, must be wholly inadmissible as long as any vestige of it remains.

Once the disease has decidedly passed into the suppurative stage, the treatment must be modified accordingly, and our measures directed with a view of hastening forward the abscess, supporting the woman's strength, and alleviating any prominent symptom (such as pain, diarrhœa, sweating, &c.) that may be present. During this trying period of the case, the treatment is to be conducted on general principles, so that I need, therefore, merely offer a few passing remarks. If the night sweats be profuse, the *mistura ferri comp.* (Dub. Pharm.) may sometimes be given with excellent effect. Diarrhœa is often present in this stage and must be kept in check. The combination of a tonic and astringent is here often indicated, and cold infusion of red cinchona bark in lime water, with the addition of some prepared chalk and tincture of kino, I have found very useful: also the docoction of logwood with Huxham's tincture of bark, and tincture of catechu,—a combination that bears a close resemblance to ordinary port wine. During this stage of the complaint patients are often much run down, and become very low and greatly reduced in strength. They must be supported, and the difficulty is to administer this support without stimulating them and increasing the fever which is always present to a greater or less degree.

If the abscess be pointing in the rectum, tenesmus is generally a very distressing symptom; and after it has burst into the bowel, tenesmus is always present. Here enemata or suppositories of opium will be found the most efficient remedies in giving relief. The half-grain morphia suppositories of Duncan and Flockhart, of Edinburgh, have been found particularly serviceable on these and many other occasions. I

have before adverted to the troublesome dysentery which supervenes upon the bursting of the abscess into the intestinal canal. The severity of this symptom will depend upon the situation of the communication between the abscess and the gut; if high up in the canal the dysentery will be more profuse and unmanageable. To put any check upon it, will require the most scrupulous attention to the patient's diet, and the constant administration of astringents, and especially of opium in some form, by mouth or enema.

Intense vesical irritation generally follows upon the discharge of the abscess into the bladder; and here also opium is almost the only medicine upon which any reliance can be placed for mitigating the suffering of the patient. Among the cases already related are examples of both these modes of termination of pelvic abscess.

The matter may be very tardy in coming to the surface. In this case a small blister will sometimes expedite its progress, but the common linseed meal poultice is perhaps the best application for the purpose. It has a very soothing influence on the pain, and this anodyne effect may be increased by smearing a little extract of belladonna over the surface of the cataplasm before its application.

Where the abscess points externally an artificial opening is desirable, but this should not be made till the matter is near to the surface. It is not always necessary, however, to wait till the skin becomes adherent to the tumour though it is generally advisable to do so. A free opening should be made with the lancet, and it is better to let the matter exude spontaneously from the abscess, or at least very gentle pressure only should be exerted on the latter. The contents of the abscess is usually thick greenish-yellow pus. Where the case proceeds satisfactorily, the discharge rapidly diminishes in quantity, becomes thinner and thinner, and finally presents the appearance of limpid yellowish serum. If the abscess tend towards the vagina, is prominent and distinctly fluctuating and causing much distress, the bistoury may be used; but in the ordinary run of cases I believe it is better to let it burst of itself when pointing in this situation; and

this was the course almost invariably pursued in my cases, and which I would recommend as a general rule. Upon this point of practice authorities are divided. Dr. West, says "the attempt to anticipate by puncture the exact course which the pus may take is very frequently unsuccessful, and not always safe;" and he mentions a case where an operator endeavoured to puncture an abscess from the vagina, no pus followed, for the trocar had at once entered the bladder through the firm œdematous vesico-vaginal wall: happily, however, no bad consequence followed.

In the subsequent management of these cases the practitioner will be guided by general principles. The patient is often sadly reduced at this stage of her protracted and troublesome complaint, so that, unless some contra-indicating symptoms be present, it will be necessary as soon as the abscess has been opened, to commence giving a course of corroboratives, and allowing her an abundant and generous diet. The ferro-citrate of quinine is a most eligible tonic under these circumstances, if there be no disposition to relaxation of the bowels. Given in solution, with a little compound tincture of orange peel, it will agree with the stomach, when other preparations of quina or iron will scarcely be tolerated.

Where a pelvic abscess discharging externally is very slow in becoming obliterated, decided benefit has resulted from making sustained pressure over it by means of a pad, or a few folds of lint, and a well adjusted bandage. In a protracted case it is not uncommon for bed-sores to occur; for we must bear in mind, that when the cellulitis comes on, the patient is, at best, only recovering from the effects of a severe and trying ordeal. Hence they must be anticipated, and every possible means used to avert their formation.

PELVIC INFLAMMATION AND ABSCESS

IN THE

NON-PUERPERAL STATE.

I HAVE purposely avoided using the term "cellulitis," as it may be questionable whether in all the cases to which this memoir relates, the inflammation had its origin or seat in the cellular tissue. This is an anatomical question, which cannot always be determined except by the dissecting knife. These cases might, perhaps, be included in the same description with those of the last memoir. Becquerel, one of the latest writers upon this subject, groups the puerperal and non-puerperal cases of pelvic inflammation together, and thinks that such a distinction ought not to be made. On the other hand, it might be supposed that these non-puerperal cases of pelvic inflammation and abscess should be assigned to the domain of pure surgery, and be comprehended in the "iliac abscesses" of surgical writers. It may, therefore, seem a matter of doubtful propriety, bringing them together here and describing them under one head, as though they were examples of any special disease, or had any one distinguishing feature belonging to them all.

On purely pathological grounds these objections must be admitted. Among the cases of pelvic inflammation, in non-puerperal women, cellulitis is met with, and presents no characters essentially different, I believe, from those appertaining to the puerperal form of this complaint. Whilst all the other cases we meet with would certainly fall within the surgical definition of iliac abscesses, of which Velpeau's classification is, intra-peritoneal, sub-peritoneal, and sub-

aponeurotic; nevertheless, it must be admitted, that pelvic inflammation and abscess is frequently associated with disease of the female generative organs, either as a consequence or an accompaniment; and that often-times, even when not so connected, it closely resembles lesions of the uterus or ovaries. Hence, these cases are sure to come under the care, or at all events the cognizance, of the obstetric physician. They form altogether an important and interesting group, not, indeed, defined by any pathological line, but yet, having well-marked clinical limits; and may, therefore, very fairly be treated of in a distinct chapter in a work like the present, which aims rather at practical utility and convenience than pathological precision.

This class of cases is, of necessity, complex; and includes many which differ materially in their characters from the cellulitis of the puerperal state. It does not comprehend, however, cases of stercoral abscess, psoas, or lumbar abscess.

The inflammation, which we are about to consider, may present itself under two forms—a *primary* or *idiopathic* form, and a *secondary* or *symptomatic*. The former of these would seem to be the rarer of the two, only five or six examples having fallen under my observation. This idiopathic form is more apt than the other to have a distinct, if not an acute, mode of invasion. The prominent symptoms are local pain and tenderness with more or less fever, followed by local swelling and tumour. In a large proportion of cases the attack of inflammation is symptomatic, being consecutive upon some uterine or ovarian disease, or abdominal inflammation. Out of a total of twelve cases that I have noted down, the pelvic inflammation was secondary to fibrous tumour of the uterus in three instances, to uterine polypus in two instances, and to abdominal inflammation in one instance.

When occurring idiopathically, it is not, probably, more dangerous than when appearing in childbed. With one exception, all the idiopathic cases I have seen recovered; but their number is too limited to justify our drawing any conclusion from them. *Three* (here recorded) ended in the formation

of matter. There are various exciting causes which may produce the attack. For instance, it was brought on in Cases 1 & 2 by an ill-adjusted or over large pessary; and this is not an uncommon cause. Occasionally, as in Cases 3, 4, and 6, there is no discoverable exciting cause for the attack. French writers enumerate many causes, which are capable of provoking the disease, viz., suppression of the menstrual flow; severe cauterization of the os uteri; astringent or caustic injections into the interior of the womb; operations upon the os or cervix uteri; the prolonged retention of a pessary; excessive coition; and the use of the stem pessary, &c. Valleix, himself, has mentioned a case in which pelvic cellulitis followed the employment of his "redresseur intra-uterin;" and a case has come to my own knowledge where a similar result ensued upon the use of a stem pessary. Any violent strain or bodily exertion, also, may excite this pelvic inflammation. For instance, the sudden exertion made in crossing a fence has produced it. The powerful muscular effort to regain equilibrium when the body, from any accidental cause, is in danger of falling backwards, has sometimes had the same effect. Let me now briefly relate the few cases, whose histories I have preserved, of the primary or idiopathic form of the disease.

Cases 1 & 2.—*Primary pelvic inflammation; resolution.* These were both married women, suffering under prolapsus of the womb; and in each the attack of inflammation was brought on by the use of an over-large pessary. The accompanying symptoms were well-marked, namely—fever, with pain in the lower belly, most intense in the iliac and upper inguinal region, where there was much tenderness to pressure. A hard swelling very soon became developed here, and slowly disappeared without suppurating, under leeching, rest, and other appropriate treatment.

Case 3.—*Primary pelvic inflammation; abscess; recovery.* D. C., aged 22, was admitted into the chronic ward of the Lying-in hospital, 9th July, 1845. She had been married two years, but had never been pregnant; enjoyed excellent health up to six weeks ago, when her present ill-

ness began with rigors, dysuria, and pain in lower belly where a swelling appeared, on the left side, which swelling now reached up to near the umbilicus. This tumour was prominent and tense, and had an obscure fluctuating feel; it was also very tender. She was feverish; rested badly at night; and lay very constantly on the left (the affected) side. A few days after her admission, a smart attack of diarrhœa came on, with considerable reduction in the size of the tumour; this led to an examination of the stools, which were found to contain quantities of pus. By the 1st August, the bulk of the tumour was greatly lessened; it now rose very little above the brim of the true pelvis, and there was a great improvement in all her other symptoms. Some days after this she left the hospital, her recovery being nearly established.

I could not discover any exciting cause for this attack of pelvic inflammation. It certainly was not any suppression of the catamenia, as she menstruated regularly up to the occurrence of the attack, and once shortly after its commencement. I kept very particular notes of this case; and, with my present experience, have no doubt, that it was an instance of pelvic cellulitis ending in abscess. She had least pain when lying *on* the affected side. This was noticed in many other instances of pelvic cellulitis, puerperal and non-puerperal, but not in all. One should, *a priori*, suppose the patient would always lie on the sound side, to take the pressure off the inflamed part.

Case 4.—*Primary pelvic inflammation; abscess; recovery.* An unmarried woman, aged 25, of highly scrofulous diathesis, was attacked with pain and tenderness of the hypogastrium, shortly after a menstrual period. She knew of no cause for this attack. The pain was acute, and attended by well-marked febrile symptoms. A distinct fulness and hardness appeared in the right iliac, and in the supra-pubic regions, where the tenderness chiefly located itself. Considerable difficulty in micturition was felt, and a sense of fulness in the vagina, and of bearing down. She was leeched, poulticed, &c., and confined to bed; and the general symptoms nearly

subsided. At the end of some weeks an abscess formed, and burst into the vagina. This was followed by immediate relief to the local uneasiness, and her recovery slowly progressed from this time, though the purulent discharge continued for several weeks. The abscess would seem to have formed anteriorly to the cervix uteri, as there was considerable fulness and tenderness here, and the cervix was a good deal displaced backwards.

Case 5. *Primary pelvic inflammation; resolution.*—This woman, whose age was 22, was married in the summer of 1857. Six weeks after this event she was admitted as an indoor patient of the Lying-in hospital, with some inflammation of the vulva, and with the left nympha nearly torn from its attachment, in consequence of violence during sexual intercourse. She was in great pain, and could scarcely stand or walk. With rest and simple treatment she got quite well, and left the house in a month. In the April following, she began to have pains in the pelvic region, tenderness across the lower belly, and extreme uneasiness *in coitu*, not at the vulva, as before, but higher up. She got weak and out of health, lost her appetite, the menstruation became scanty and irregular, and latterly she has sweated at night. She has never been pregnant. These symptoms had been going on for two months, when she was again received into the hospital. At this time she had some slight fever upon her; pulse 96; tongue white; no appetite; free perspiration at night. There was hardness and some swelling in the supra-pubic region, and very acute tenderness here. The uterus was fixed, and around the upper part of the cervix there was considerable fulness, and any pressure in this situation caused acute pain. Ten leeches were applied to the hypogastrium; she was strictly confined to bed, and got two grains of Plummer's pill three times a-day. Subsequently the supra-pubic tumour was painted with strong tincture of iodine, and she was put on the use of iodide of potassium in infusion of quassia. Under this treatment she rapidly improved, and in the course of a fortnight had an abundant menstruation. By this time all hypogastric swelling and tenderness had gone; the uterus was more moveable,

and there was much less swelling around it, and no tenderness. She was allowed to be up for some hours each day. A week after this she left the hospital, contrary to my wishes; but as she did not return, we may safely conclude she had no relapse.

There can be little doubt that in this case the cellular tissue around the neck of the womb was the seat of inflammation; and it is no less probable that this was induced by excessive coition. The cellulitis came on in a very slow, gradual manner, but yet its progress was marked by symptoms sufficiently plain and intelligible.

There can be little doubt that in these three latter cases the inflammation had its seat in the cellular tissue around the cervix. The name "peri-uterine phlegmon," which Becquerel applies in a general way to this disease, was, therefore, strictly applicable to them. Whether cases such as these are really examples of cellulitis, or, as M. M. Bernutz and Goupil labor to prove, of circumscribed peritonitis of the pelvis—"pelvi-peritonitis"—as they term it, does not seem to be a question of any great importance in a purely practical point of view. Let me detail one case more belonging to this same group.

Case 6.—*Pelvic inflammation; abscess; death.* This patient was an unmarried woman, aged 25. She was admitted to the chronic ward of the Lying-in hospital in a state of extreme emaciation and weakness. The pulse was frequent, the appetite small and capricious, and she had perspirations at night. The belly was soft and retracted; and there was no perceptible tumour. She has much pelvic uneasiness, and she discharged, from time to time, considerable quantities of pus from the rectum; before this comes away, she has much tenesmus. The bowels are generally constipated. Pressure high up in the vagina, and behind the uterus, caused her much pain, and there seemed to be some fulness and hardness in this situation. No other information could be gained by external, vaginal, or rectal examination. Her illness commenced about six months ago, with symptoms of abdominal inflammation; and two months later — her

health meantime being very imperfect and the catamenia suppressed—she began to void pus by stool.

She lingered on during the months of May, June, and July, and died in the beginning of August, greatly emaciated.

It may, perhaps, be asked, what proof there is of this case being one of pelvic abscess at all? To this it can be replied, that if not a pelvic abscess what else was it? Certainly not ulceration of the intestines, as she had no dysentery; not stricture of the rectum or colon, as there was no abdominal distension whatsoever, and the stools had a natural size and configuration; and not lumbar or psoas abscess, of which there was not a single direct symptom. On the other hand, all the facts of her case, and their order of sequence, were quite consonant with the history of the disease under consideration. How the abscess, (which probably was a small one and situated behind the uterus), originated, we need not stop to discuss here.

In none of the foregoing cases was the diagnosis attended with any difficulty. There was, in fact, no room for doubt or ambiguity upon the point. But it is not, however, always so in the disease. Cases do occasionally occur where its inception is attended by symptoms few in number and but imperfectly marked, and its progress is slow and insidious; or, the practitioner may not see the patient till she is far advanced in the chronic stage, when the cause of the tumour and of the ill-defined symptoms which she commonly presents at this period, will be involved in much obscurity, and can only be made out by a patient and minute analysis of the rational symptoms, physical signs, and history of the case. A careful digital examination, both by the vagina and rectum, should be instituted; and exploration by means of the uterine sound, will also supply an important element in the data upon which our opinion is to be founded. It too often happens that we do not get a correct or a trustworthy account of the beginning of the case; and this deficiency very much increases the obstacles in the way of our discovering its true nature. As an example of the difficulties which

sometimes beset the diagnosis of a chronic pelvic abscess of the kind we are now considering, I may allude to a case which occurred in St. Bartholomew's hospital, and which, Dr. Tilt tells us, "baffled the sagacity of all who saw it." The patient, aged 26 years, suddenly entered upon a very dissolute course of life, when the sexual organs were abusively used. Two months before her admission, an attack resembling peritonitis took place, and after four days' appropriate treatment, a tumour made its appearance in the right iliac region. This tumour was dull on percussion, and caused an enlargement of the abdomen about equal to a five months' pregnancy. Symptomatic fever now began to run very high. The os uteri was situated low in the vagina, and obliquely inclined to the right side. The sound showed the uterus to be empty and pushed to the left side. After some days had passed over, and febrile symptoms were still present, a dull sense of fluctuation became sensible to the hand when applied over the tumour. Very conflicting opinions were entertained respecting the nature of the case. Some thought it was an ovarian cyst, others, an extra-uterine gestation, while Mr. Stanley could form no opinion about it. This surgeon passed an exploratory needle into the tumour, which brought away some pus; a trocar was then introduced, and six ounces more were drawn off. She improved for some days after this, but then symptoms of severe peritonitis came on under which she rapidly sank. At the *post mortem* examination it was found that an enormous pelvic abscess, "originating in the cellular tissue between the vagina and rectum," had existed. This abscess had thence burst into the peritoneal sac. The reporter of the case in the *Lancet* adds a remark very applicable to this class of cases: "In spite of the minute inquiries of the practitioner by the bedside, he *never* is made acquainted with *all* the circumstances of a great many cases, and sometimes remains ignorant of facts which would have rendered the diagnosis comparatively easy."

I very much regret not having preserved records of all the instances that have come before me of pelvic inflamma-

tion complicating uterine, or ovarian disease. They constituted, in my experience, the larger proportion of all the cases, and a still larger proportion of all the fatal cases, of pelvic inflammation in the non-puerperal state. Abstracts of those which were kept are subjoined. They will help to illustrate this part of our subject.

Case 7.—*Uterine fibroid; pelvic inflammation; resolution.* The subject of this case was a young unmarried woman, who had a sub-mucous fibrous tumour, the size of an orange attached to the anterior wall of the uterus. Whilst under treatment for this, she got a severe attack of pain in the left side of lower belly, with diarrhœa, vomiting, fever, and extreme tenderness on pressure. By leeching and other appropriate means, the acute symptoms were subdued, but a considerable swelling and hardness remained in the left iliac region, and did not disappear for several weeks. At its commencement this attack bore no small resemblance to peritonitis, and there probably was some local peritonitis.

Case 8.—*Uterine fibroid; pelvic abscess; death.* A woman, aged 38, was admitted to the Lying-in hospital, 7th October, 1861. She had been married for some years, but never was pregnant. The uterus was enlarged to the size of a four months' pregnancy, from the presence of one or more fibrous tumours. In the left iliac region there was also a distinct hardness and tenderness, and in this situation she occasionally had severe pain. Whilst in hospital, she rather suddenly began to complain of extreme pain in the lower belly and left side, speedily assuming all the characters of severe and extensive peritonitis, under which she sank in three or four days. At the *post mortem* examination, there was found intense peritonitis, with much lymphy exudation. In the left broad ligament was a large abscess, the interior of which was dark and sloughy-looking. At one point the abscess appeared to have given way, and to have discharged some of its contents into the abdominal cavity, thus accounting most satisfactorily for the sudden and fatal peritonitis. She had told me that for months she had been subject to occasional pain and uneasiness in the left side and iliac

region, and to attacks of diarrhœa or dysentery, sometimes attended with vomiting. I have not the least doubt these symptoms were connected with some inflammatory action going on in the left broad ligament or adjacent sub-peritoneal cellular tissue. She never had metrorrhagia, and within the last few months the catamenia, hitherto always regular, had become scanty. I should have mentioned that the uterus contained two small intra-mural fibrous tumours imbedded near the fundus in its proper structure, which had become immensely thickened and developed, so as to cause a great enlargement of the whole organ. The uterine cavity was elongated and tortuous.

Case 9.—*Uterine tumour; pelvic abscesses; death.* A woman aged 23, three years married but never pregnant, was placed under my care in January, 1860, by Dr. W. D. Moore, on account of a uterine enlargement, which was apparently due to the presence of a fibrous tumour. In the middle of June she got a slight febrile attack with some pain and tenderness in the left iliac region, where a swelling formed and attained a considerable size. After some weeks of suffering the patient got relief by this large tumour bursting into the intestine, and there discharging a prodigious quantity of pus. The outward enlargement rapidly subsided, without altogether disappearing, but she had a bad diarrhœa which continued very long, and coming after so severe an illness, pulled down her flesh, and greatly lowered her strength. She was for a length of time confined to bed, and when recovering, the tumour in left side began again to enlarge. Another abscess formed which burst externally, about the middle of August, at a point corresponding to the internal abdominal ring. She was still liable to recurring attacks of diarrhœa, at which time small quantities of purulent matter passed away by stool. She never got up her strength after this. The abscess continued to discharge and the attacks of diarrhœa to recur, and finally she sank in November, 1861.

This woman had always, from the time of my first seeing her, a sickly yellow complexion; and had formerly suffered from dysmenorrhœa.

Case 10.—*Uterine polypus; pelvic abscess; death.* This patient came under treatment for a large uterine polypus of the fibrous kind which was removed by ligature in five days. She got a slight rigor two days after the polypus came away, and complained of weakness and pain in left iliac region. This was on 5th December. She continued in an unsatisfactory state with a rapid pulse, no appetite, and occasional bilious vomiting, to which she said she had been liable for some months back. On 15th December, at 10 o'clock, a.m., she suddenly became alarmingly weak, got violent pain in the belly, with vomiting, which soon assumed the coffee ground character. The collapse increased and she died within twenty-four hours from the onset of these symptoms. At the autopsy we found intense recent peritonitis. In the pelvis there were strong old bands of lymph, the effects of former inflammation. The substance of the uterus itself was healthy. In the left broad ligament was a large abscess, which burrowed across towards the right side, behind the uterus. This abscess had burst through the serous membrane where this was reflected from the vagina to the rectum, thereby permitting the escape of pus into the peritoneal cavity.

Here then, was at once a satisfactory explanation for the production of the sudden and fatal attack of peritonitis. There can be no doubt this abscess was the result of chronic inflammation going on for many months. She told me that for upwards of two years she had been subject to *severe pelvic pains, occasional attacks of diarrhœa, and vomiting*, and that she had undergone at New York, a prolonged course of local treatment for "inflammation and ulceration of the uterus." At what period the suppurative process was set up it is not easy to say. The local irritation which the removal of the polypus must have produced, might have hastened the formation of matter, and this process once commenced, might, even within the period of a fortnight, have developed an abscess of the size that this one had; the case next to be related tends to support this view. When the patient, whose case has just been given, came first under my observation at the Lying-in hospital, (where

she had been sent by Dr. Johnson, for admission to the chronic ward), she was moderately stout, but otherwise delicate-looking and very pale, which was ascribable to the hæmorrhages she had sustained. There was some slight fulness and induration in the left iliac region, but as there was no tenderness, and she made no complaint of pain, I gave no further attention to this circumstance. Had it been possible to examine the upper and back part of the vagina at this time, a morbid hardness and tumefaction would no doubt have been perceptible.

I look upon this case as a most instructive one in regard to our present subject. Its history presents to us many of the more prominent symptoms which attend upon pelvic inflammation of a chronic description.

Case 11.—*Uterine polypus; deligation; pelvic abscesses; death.* A woman aged 38 had a polypus the size of a large pear and of the fibrous kind, removed by ligature, in the usual way, with Gooch's canula. There was neither swelling nor tenderness in any part of the lower belly prior to the operation, neither did manipulation of the tumour occasion any uneasiness. A low kind of fever made its appearance before the separation of the polypus, the pulse was rapid, and the belly tympanitic. The polypus dropped on the sixth day. The ligature had caused no pain whatever when first applied, nor at any time subsequently. Four days after it had come away, the same symptoms continued, the tongue had become dry, there was a tendency to diarrhœa, and low in the right iliac region was a hardness with some swelling, accompanied by pain and considerable tenderness here.

A similar tumour rapidly formed in the left iliac region. The febrile symptoms and general failure of the vital powers daily became more marked, so that she sank on the eighteenth day from the removal of the polypus. At the *post mortem* examination we found marks of slight peritonitis. In each iliac region was a globular tumour, closely connected with the uterus, rectum, and adjacent parts. When opened, each of these tumours was found to contain a quantity of yellow inodorous pus. The uterus presented no morbid appearance.

The interesting question connected with this history is, whether these purulent collections had any existence before the operation? Or, must we regard their formation as a result of the operation? There certainly was no sign discoverable by external examination, of the presence of any tumour in the hypogastrium prior to the operation. That the broad ligaments may have been the seat of some chronic inflammation previously to the removal of the polypus is more than probable, I think; but there can be little doubt that the abscesses were developed subsequently to this event. Both in this and the preceding case, the patient's general condition was not merely anæmic, but cachectic; and such a condition of body must, without doubt, have greatly favored the pyogenic process.

In reference to non-puerperal pelvic inflammation, Dr. West remarks, that it "may sometimes, though I believe rarely, be wholly unconnected with any previous disorder of the uterus, or with any previous disturbance of its functions. In cases of this last description (he continues,) the local ailment seems usually to develop itself out of the symptoms of a general peritonitis of no very great severity, which, though relieved by treatment, have not altogether disappeared, but have become limited in extent, and have been referred to the uterus and pelvic region, where a careful examination discovers just the same changes to have taken place as succeed to inflammation in the puerperal state." Now, the case I am about to narrate seems to have been one of this kind; at least the imperfect history I have of it accords therewith.

Case 12.—*Peritonitis; abdomino-pelvic abscess; death.* This patient, whose age was 30, was married in February, 1861, menstruated in March, and soon afterwards she got a fever of some kind with gastro-enteric symptoms, such as vomiting, diarrhœa, and abdominal intumescence. Marked tenderness in the left iliac region early appeared and required leeching. On 11th May, 1861, when convalescent from this prolonged illness, I first saw her in consultation with Dr. Rorke, of Baldoyle, under whose care she had recently come.

She was very thin and weak; pulse 90; frequent diarrhœa, and irritability of stomach. In the lower part of belly and to left side, was a large hard tumour, tender on pressure, and extending up to the umbilicus. It was partially resonant on percussion, and was remarkably fixed, and its contour very ill-defined. This swelling was discovered as the attack of fever began to subside. The uterus, examined internally, appeared healthy. We agreed upon a course of treatment, which she pursued to 3rd June, on which day she was up for a short time, and ate dinner and supper with her usual appetite. At 9 o'clock, p.m., she was seized with a sudden and violent pain in lower belly, followed by vomiting and prostration. Dr. Rorke being from home, I was sent for early the following morning, but she had expired before my arrival, viz., at 6 o'clock, a.m. There was no *post mortem* examination, so that conclusive evidence is wanting to establish the nature of this case. However, I have no hesitation in expressing my conviction, that the tumour in the left side was a collection of matter, the sudden bursting of which into the peritoneum was the immediate cause of death.

The foregoing histories, though few in number, may well suggest some reflections of a practical kind. In the first place, they forcibly illustrate how insidious and dangerous these pelvic or abdomino-pelvic abscesses occasionally may be; and how important is their correct diagnosis in regard both to prognosis and to treatment, especially if any operative procedure, such as the removal of a polypus, is in contemplation.

They further supply us with some hints which may assist in diagnosing obscurely developed cases. The symptoms which should, at all events, excite suspicion, are—1. A persistent hardness and swelling in one or other iliac region, not directly referable to uterine or ovarian enlargement. If it can be clearly ascertained that this swelling does not depend upon any morbid enlargement of the uterus or ovary, such will be an important negative element in the diagnosis of a chronic abscess. 2. A persistent uneasiness here, with more or less tenderness on pressure. These symptoms alone should be sufficient to create an apprehension of the probable existence

of some deep-seated collection of matter, and to prompt to closer and more connected inquiry in the same direction. We shall then most likely discover that the patient has had occasional attacks of abdominal pain, more to one side than the other, accompanied by febrile symptoms and by vomiting or diarrhœa. These illnesses she will, perhaps, describe as having been merely "bilious attacks." Her appearance will be more or less cachectic, and the pulse be somewhat above the normal rate; her appetite bad, and she may perspire rather freely at night, and occasionally experience slight chills. She may be up and about, still she is only equal for slight exertion, and has a constant *malaise* and feeling of indisposition, which deprive her of all enjoyment and unfit her for active duties.

It is true, many of these symptoms may be present, and yet we would not be justified in making the diagnosis of pelvic abscess, for they may arise from other causes. This is at once admitted. But if present, even in part only, they should, at all events, suggest the possibility of a purulent collection existing in the neighbourhood of the uterus, and should incite to careful investigation, whereby an abscess can hardly escape detection if really present.

It is very remarkable that while three of the above seven cases of abscess were brought to a sudden and abrupt termination by bursting of the sac into the peritoneal cavity, no such accident ever occurred in all my experience of pelvic abscess succeeding to parturition. I am not quite prepared to offer any satisfactory explanation of this striking difference; but it constitutes a feature in the history of the non-puerperal disease, deserving of the highest consideration.

In Case 12, the abscess probably was intra-peritoneal, so that it cannot strictly be placed in the same pathological category with cases of puerperal pelvic cellulitis; but in Cases 8 and 10, the abscess certainly was not intra-peritoneal, and, therefore, they may fairly be compared with the pelvic abscesses of the puerperal state.

Another point of difference, which Dr. Bennett has noted, is, the much greater frequency with which the pus is dis-

charged *per rectum* or *per vaginam*, in the non-puerperal pelvic abscesses; and the extreme rarity of the abscess pointing *externally* among this same class of cases. If this observation be confined to the idiopathic or primary form of non-puerperal pelvic inflammation, I think it will be found correct. Cases 3 and 4 are illustrations of its truthfulness.

So far I have said nothing of the treatment of non-puerperal pelvic inflammation, beyond what is mentioned in the foregoing clinical histories. From these, however, a good deal may be gathered. Moreover, the principles of treatment are, in all essential points, the same as those which should guide us in the puerperal cellulitis. A very few remarks, therefore, will suffice. Rest in the recumbent posture, and the removal of every possible cause of sexual disturbance or excitement must be enjoined. This precept applies, without exception, to all forms and stages of the complaint. When a case comes under our care in the acute or sub-acute stage, leeches should be put on over the swelling, followed by warm poultices, or frequent hot fomentations. If the inflammation be seated low in the pelvis, behind or in front of the cervix uteri, a few leeches might be applied, with every prospect of advantage, to the anus or to the inner edges of the labia. The bowels should be gently opened, in the first instance, with some saline aperient, and afterwards small doses of blue pill and James's or Dover's powder may be given every third or fourth hour; or two grains of Plummer's pill three times a-day. When the poulticing has been discontinued, in consequence of the removal of the tenderness, a pad of lint, four or five inches square, and well smeared with mercurial ointment, should be kept constantly on the hypogastrium. At a later period, and when the disease has become decidedly chronic in its symptoms, painting the integument over the tumour with very strong tincture of iodine, every second or third day, has sometimes appeared useful. At the same time the iodide, or bromide, of potassium in the infusion of calumba, may be given internally. When there are indications of suppuration and of the abscess tending towards the surface, oatmeal

or linseed meal poultices should again be employed; if towards the vagina or rectum, the hip-bath may be given daily.

Cases related in this memoir tend to establish the existence of a danger connected with non-puerperal pelvic inflammation, almost unknown to the allied disease of the puerperal state; and this danger is greatest, as we have seen, in the secondary or symptomatic form of the complaint, and where it presents itself as a complication of organic disease of the uterus or the ovaries. With this fact before us, we should give a very guarded and qualified prognosis as to the probable events of the case. Here my experience obliges me to differ from some highly respectable French authors, who are of opinion that the puerperal disease is, on the whole, more dangerous than the non-puerperal. If only the primary or idiopathic form of the latter be included in the comparison, then I believe these writers would state what is strictly correct; but, if the other form be taken into the account, then I must differ from them. In view, then, of this liability of the abscess bursting into the peritoneal cavity, the question may be asked, how is the knowledge of this to affect our practice? The only way that I can see in which it might possibly do so, would be in justifying an early puncture of the abscess in whatever situation this could safely be made.

Dr. Corrigan has described an inflammatory swelling of the lower belly possessing the same characters as the disease of which this memoir treats. But he takes a novel view of its pathology. "These tumours," he writes, "consist of glands taking on an inflammatory action and swelling—either the deep-seated glands within the true pelvis, or the more superficial, lying in the same sheath of cellular tissue with the external iliac artery and veins, or both groups of glands together." It is not mentioned whether this opinion was founded merely on clinical or on necroscopic observation. That there may be some glandular enlargement in a very few of these cases of pelvic inflammation, I will not altogether deny, but all the evidence heretofore is against it; nor have I ever, at any *post mortem* examination, seen the glands particularly alluded to by Dr. Corrigan.

PROCIDENTIA UTERI

AND THE

USE OF PESSARIES.

FALLING down or descent of the womb is by far the most frequent displacement to which the organ is liable; and among the working classes of society is really a very common complaint. Of the numerous patients attending the dispensary at the Lying-in hospital, fully a sixth or seventh of the entire number labor under prolapsus or procidentia uteri. These two terms are sometimes used indifferently, as though they were exactly synonymous; but I prefer to follow the example of Denman, Burns, and Ramsbotham, in restricting the use of the word *prolapsus* to those instances where the uterus descends to the level of the perineum; and employing the term *procidentia*, where the organ protrudes beyond the vulva, in which case the vagina must necessarily be more or less everted.

There are certain occupations which predispose to this, as to other complaints. Cooks and washerwomen seem to suffer in a larger proportion than any others from "bearing down" of the womb. This may be easily accounted for. Cooks live in a very relaxing atmosphere, and have very constantly to be on their feet. Washerwomen have habitually to stand in a somewhat bent posture, and at the same time are obliged to use a good deal of exertion. Standing is more productive of uneasiness to a patient with uterine disease, than is any other position,—even walking is not so much complained of. But when a woman stands long with the

body bent forwards, and at the same time uses considerable muscular exertions of the arms and trunk (which washer-women are obliged to do,) the effect on the uterus must be most prejudicial. No combination of attitude and movements is so calculated to displace the uterus, unless it be the act of defœcation. Carrying a child on the arm, as most nurses do in this country, is also very trying on the uterus; and in primitive states of society, this mode is seldom followed. Among the Esquimaux, and some other northern tribes, the infant is carried in a hood on the back. The Bakalahari, of Central Africa, adopt a similar plan; and the aboriginal inhabitants of North America have the child secured to a flat piece of board, which is slung on the arm, shoulder, or round the neck, as the woman walks along.

Two or three patients who had prolapse of the womb, have told me that soon after getting up in the morning they have been conscious of the escape of air from the vagina. Each of these women had a capacious and enlarged vagina, with hypertophy of the lower part of the uterus. I took care to ascertain that there was no fistulous communication, however small, between the vagina and rectum,—this point I established by physical examination. Now, where did this air come from? I think it was introduced into the vagina *from without.* Let me explain how. If a patient be placed on her face and knees, so that the abdominal and pelvic viscera fall forwards and downwards, the walls of the vagina will be separated, and its whole interior brought into view, and conconsequently filled with air—simply under the influence of atmospheric pressure. If the patient now suddenly turn on her side or face, some of this air will most probably be imprisoned. I merely mention this as an illustration how air may, at will, be admitted to the vagina, simply by a particular position of the body; and this will help us to understand the cause of its presence there in the above cases. I imagine that as the woman lay on her side or face, the uterus falling over into the abdomen tended to put the vagina on the stretch, and thus, as it were, to invite the entrance of air in the same way, though less strongly, as in the position on the face

and knees. That certain positions of the body or actions of the abdominal muscles, are capable of drawing in air into the vagina, is put beyond a question by a case that Dr. Harley related to the Obstetrical Society of London. He introduced one end of a tube into the vagina of a patient affected with this symptom, whilst the other end was placed in a tumbler of water. Some bubbles of inodorous gas were first expelled, and immediately after a large quantity of the water was drawn into the tube, thus showing that a considerable suction-power had been in operation. This patient was hysterical, and liable to be seized with violent spasms of the *recti* muscles of the abdomen, and these spasms seemed to have some connexion with the phenomenon in question. Let me return from this digression.

Prolapsus of the uterus is most frequently brought on, in the first instance, by premature exertion after delivery; but it may occur in those who have never borne children, and even in virgins, to the extent of complete procidence; in such instances, its production is generally attributed to some violent strain or unusual muscular effort. Its occurrence during early pregnancy is not at all uncommon. I know several ladies (short women, with shallow capacious pelves,) who suffer more or less from this displacement till after the period of quickening. In these cases, the uterus only descends so far as to bring the cervix into the vulva—in other words, the displacement only amounts to prolapsus. In the following case, however, it went much further.

Case 1.—*Procidentia uteri in seventh month of pregnancy.* A woman, aged 35, was admitted into the gynæcological department of the Lying-in hospital, 18th October, 1855. She applied for admission on account of a complete procidentia of the womb, with considerable excoriations of the os. On examining the tumour I discovered that the body of the organ was much enlarged; the cervix was full and expanded, and within it was felt a hard substance, having much the feel of a fœtal head. The possibility of her being with child now suggested itself to my mind, and prompted further investigation, the result of which was the

admission that she was more than six months gone with child, (her second). The head and shoulders of the child were literally external to the pelvis. The uterus was gently replaced, and she was confined to bed. Four days afterwards labour came on, and she was delivered in six hours of a living girl, which weighed four pounds five ounces avoirdupois, and measured seventeen and a-half inches in length. She recovered very well, and was kept in the horizontal position for some weeks, when she went home apparently cured of the prolapse.

I have seen a few cases where the undilated os uteri was protruding beyond the vulva at the beginning of labour, and the head of the child lying completely in the pelvic cavity. In such cases there generally is an unusual capacity of the pelvis. One of these patients was a primipara, from whose bladder a large calculus had been removed two months before. (See memoir on Vesical Calculus). At the commencement of labour, the entire cervix and anterior wall of the vagina were procident; and the child's head could be felt low down in the pelvis. The bladder was also displaced along with the vagina. The cervix uteri was long and tumid. With some difficulty I replaced all the parts. The dilatation of the os proceeded very slowly; and the anterior lip remained low down until shortly before delivery, when I pushed it up with my finger, to allow of the application of the forceps. I had repeatedly pushed it up before, but it immediately prolapsed again. It offered no obstacle whatever to the expulsion of the head. The use of the forceps was called for on account of the failure of the pains, the weakness of the fœtal heart, and symptoms of exhaustion and fever. The extraction of the head was accomplished with the greatest ease. The child, a boy, was saved, and the woman made a good recovery, but continues to have the procidentia to a very great degree.

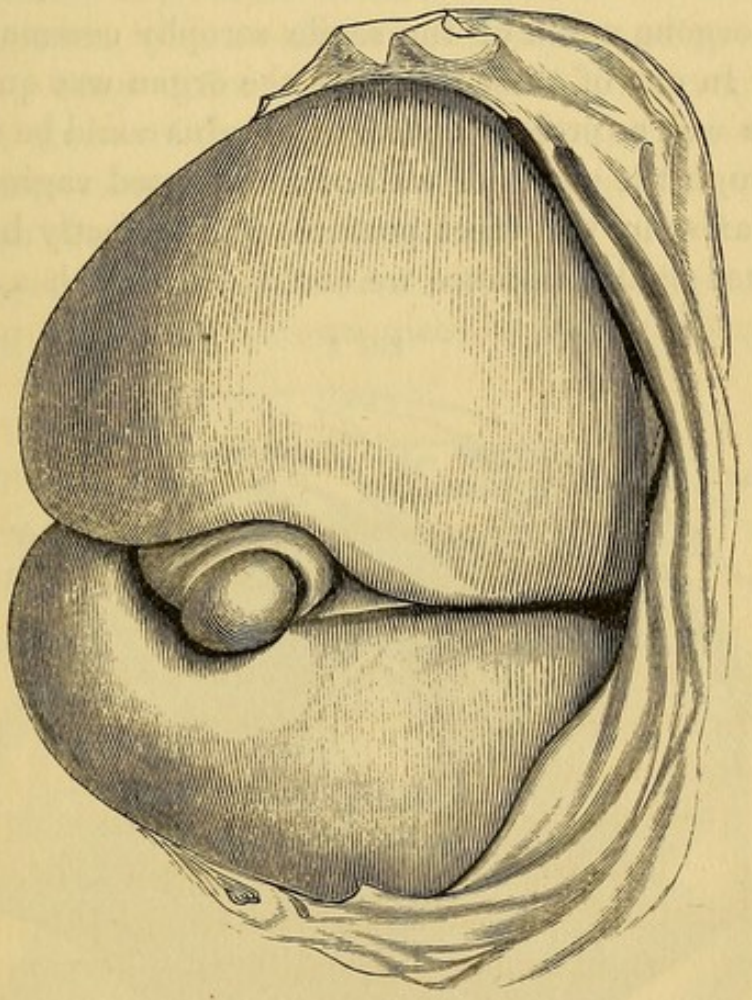
On rare occasions the uterus descends and the cervix protrudes, within a few days after delivery, causing, it may be, much unnecessary alarm from its deep purple color and tumid condition.

I have never known any difficulty to be experienced in

diagnosing prolapsus, or procidentia uteri, except once; and in this patient (an old woman, who had a large family,) the procident cervix was mistaken for an incomplete inversion of the uterus. The appearances were at first very deceptive, owing to the great hypertrophy and elongation of the posterior lip, which was also entirely ulcerated to a line running round it on a level with the normally sized anterior lip.

The following cut will help to make this description more intelligible.

FIG. 1.



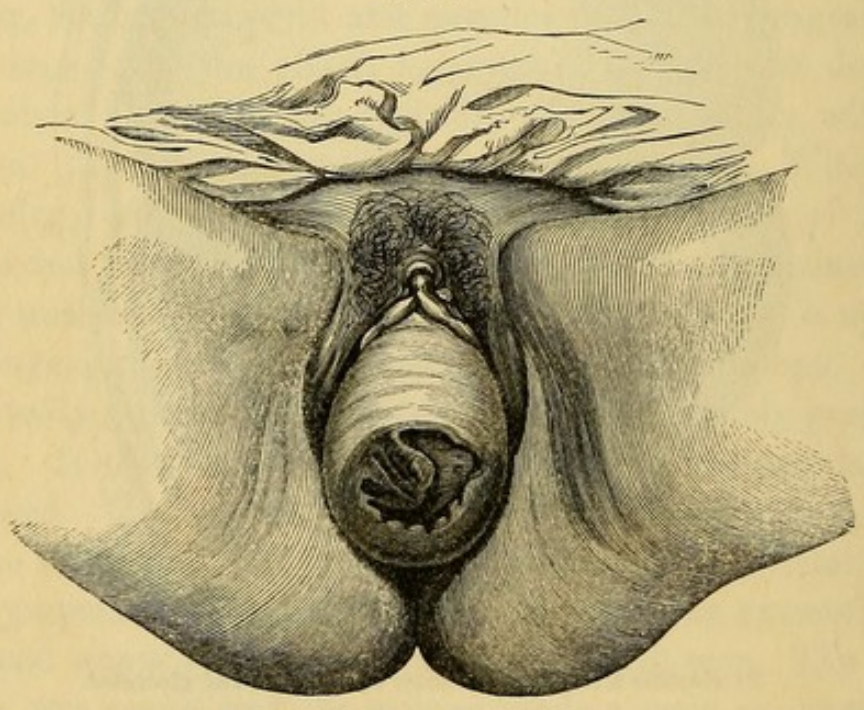
Procidentia Uteri; the posterior lip enlarged and ulcerated.

Where the procidentia has been of any duration, and especially if complete, we frequently find considerable hypertrophy of the os and cervix, with some lengthening of the latter, so that the sound passes in to an unusual distance. In the great majority of cases where this simple hypertrophy exists to any considerable extent, I believe it is the consequence solely of the displacement. In not a few cases that I have seen,

only one lip was affected. Fig. 1 was an extreme degree of this; while in other cases (Case 3, for example,) there was no hypertrophy or lengthening whatsoever of the os or cervix. I feel satisfied that the frequency of this cervical hypertrophy, and its influence on the production of the displacement, have been greatly over-estimated by M. Huguier and some others; and, therefore, the practice they recommend, viz., excision of the cervix uteri, if justifiable at all, should only be resorted to in a very few exceptional cases.

In some instances of women advanced in life, the uterus had undergone much of the senile atrophy common at this period. In one of these instances the organ was quite retroverted as well as prolapsed, and the fundus could be distinctly felt through the posterior wall of the everted vagina, so that its long axis, in the erect posture, was perfectly horizontal. In another similar instance we could distinguish a sub-peri-

FIG. 2.



Complete Procidentia, with ulceration of the os uteri. From a patient aged 74.

toneal fibrous tumour standing out from the posterior part of the fundus uteri. In these old women the cervical canal has frequently been found quite closed, and impervious to the smallest sized probe. It may seem strange that prolapsus should occur at this time of life, when the uterus has become

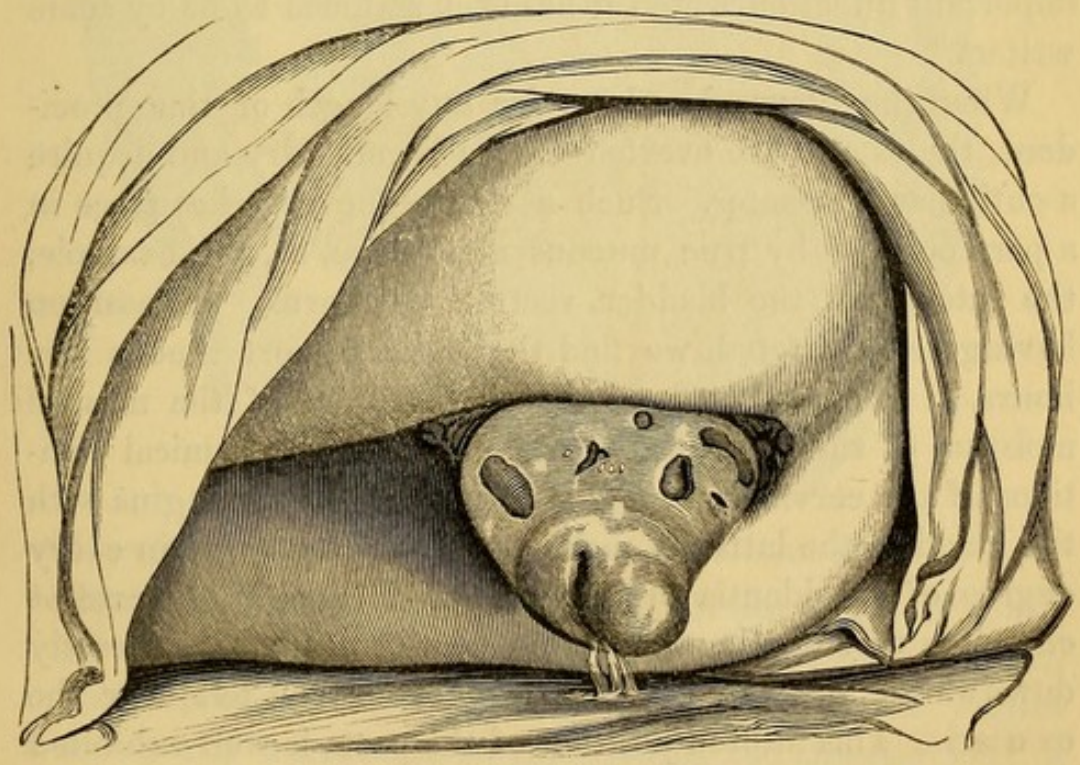
small and atrophied. But it is to be attributed, as Kiwisch has remarked, to the want of support of the uterus, in consequence of the absorption of fat in the pelvis, and the flabby relaxed condition of the vagina. These circumstances render it more difficult in aged women to keep up the uterus by mechanical means.

Nothing is more common in cases of chronic procidentia, than to find more or less ulceration of the os uteri and adjacent portions of the vagina. (Fig. 2.)

Now, these are veritable ulcers, below the level of surrounding parts, with a well-defined margin, and red granular surface. They differ materially from the generality of so-called ulcers of the womb when *in situ*, which ulcers are rarely more than superficial abrasions, or rawness of the surface from absence of the epithelium.

These ulcerations are in some cases very large, their area equalling the size of a crown piece or more. There may be

FIG. 3.



Complete Procidentia, with extensive ulceration of os uteri and vagina. From a patient aged 30.

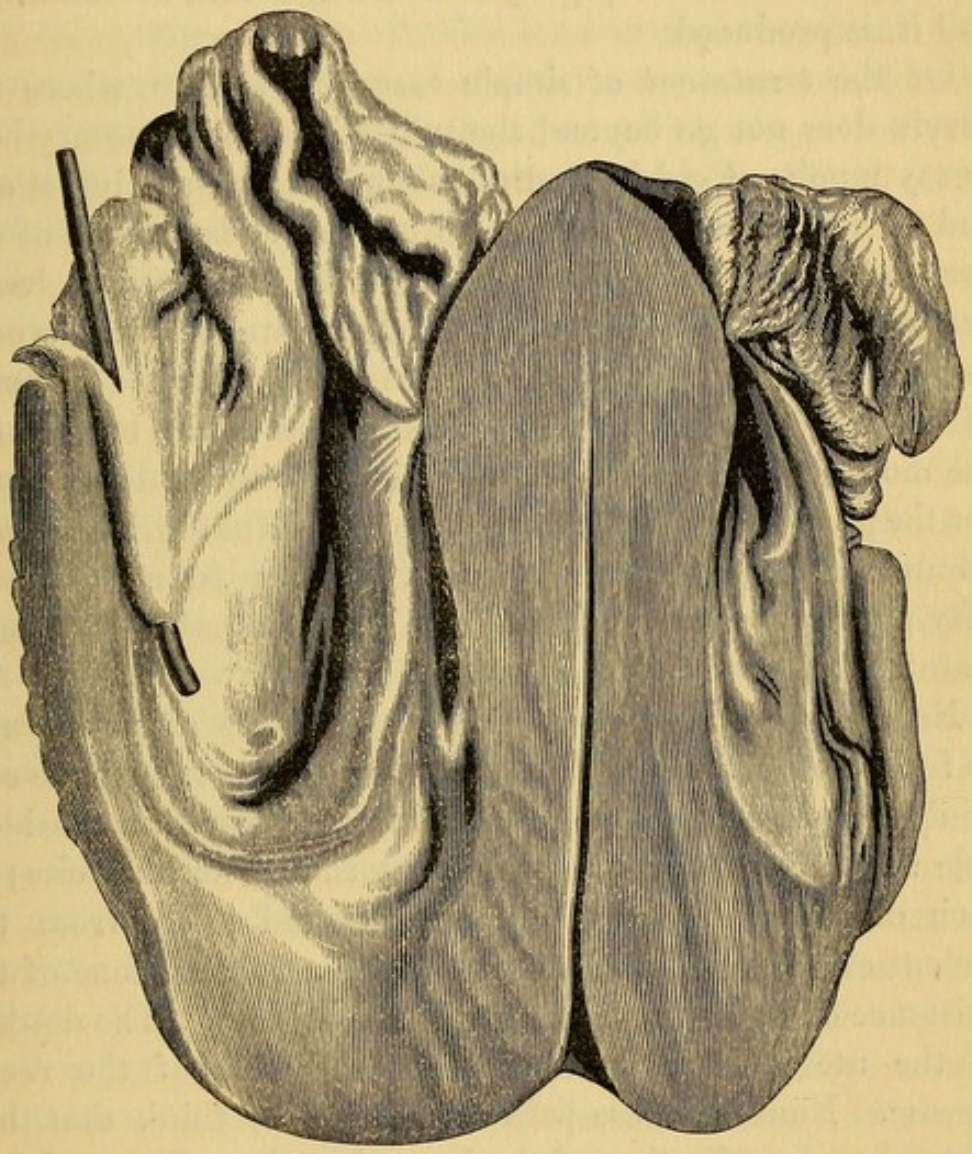
three or four distinct ulcers on the os and vagina, as in the patient from whom this illustration (fig. 3) was obtained.

It is very remarkable how little these ulcers seem to add to the annoyance of the patient. This has often surprised me, and has prompted the inquiry, how is it possible that an abrasion of trifling extent upon the unprolapsed uterus can produce severe derangement of the general health with much local suffering, when this vast ulcer on the procident organ does not seem to aggravate or multiply the symptoms directly resulting from the displacement? The same difficulty has suggested itself to the minds of other observers. Dr. C. West thus speaks—"Now, though the relations of the procident womb differ materially from those of the organ while still *in situ*, though its sensibilities are unquestionably much blunted by its change of position, yet the general absence of any abundant discharge either from the cavity of the womb, or from the canal of its cervix, as well as of the other symptoms supposed to characterize inflammation of the neck of the womb, cannot but raise a presumption unfavourable to the opinion, that ulceration of the os uteri is the all-important affection which it has been assumed to be by some writers."

When the uterus has been for any length of time procident, the os and the everted vagina become dry and acquire a cuticular character. Such a change never takes place in a part covered by true mucous membrane, as, for example, the interior of the bladder, rectum, or uterus. Reposition having been effected, we find that a very short time, a few hours, in fact, will suffice for the restoration of the natural moisture of the canal. Owing to the close anatomical relations of the cervix uteri and anterior wall of the vagina with the bladder, the latter is more or less drawn down in every degree of procidentia of the womb. Hence, in the case of complete procidentia, the course of the urethra is directly downwards, and the tip of a catheter may be felt near the os uteri. This altered position of the parts is well exhibited in the following cut (fig. 4). The preparation from which it was taken is in the Museum of the Lying-in hospital. I obtained it from the body of a woman who died of ascites, having been admitted into hospital with complete procidence

of the womb. The presence of ascitic fluid in immense quantity, rendered reduction impossible. The vagina was cut across on a level with the outlet of the pelvis, and a mesial section of the entire tumour then made, one lateral half of which is here shown.

FIG. 4.



Mesial section of a complete Procidentia, showing relations of vagina, bladder, and uterus.

The rectum having no connexion with the uterus, or upper third of the vagina, is never displaced unless the procidentia be so great as to cause complete eversion of the vagina. Even in the worst cases of procidentia, the anterior wall of the rectum undergoes but little disturbance, and is seldom drawn down below the level of the sphincter ani.

It is not uncommon in prolapsus uteri (the organ being still within the vagina), to find a moderate degree of that

change in the colour of the vulva and ostium vaginæ, which is reckoned by Kluge, Jacquemin, Montgomery, and others, among the least fallible signs of pregnancy. In the two classes of cases this change of colour is due to the same cause, namely, venous congestion of the part, whereby a greater or less approach to a deep purple or *modena* tint, as the artists call it, is produced.

Of the *treatment* of simple cases of prolapse, where the cervix does not go beyond the vulva, it is not necessary here to say much. Cold hip-baths, astringent vaginal injections, and an abdominal bandage, with moderate observance of the horizontal position, will suffice, in most instances, to lessen or to rectify the displacement. Few practitioners would think of using a pessary for such cases. Among the *lædentia* of this complaint, cough, and constipation of the bowels, are the most conspicuous; and it is vain to think of doing much for the prolapse until these are removed. Taking, at random, a hundred cases of uterine disease, M. Aran found that over fifty per cent. suffered from some form of pulmonary complaint.

No action or movement of the body tends so powerfully to force down the womb as straining at stool. I have certainly seen three cases where patients had been for a considerable time treated for procidentia uteri, and nothing else; in each of whom, the displacement resulted solely from the violent efforts required in defœcation, in consequence of the existence of an organic stricture of the rectum. The descent of the uterus here was obviously an effect of the rectal disease. None of these patients seemed to think that they labored under affection of the lower bowel at all—much less that this was the real seat of their disease. On the contrary, they supposed that all their symptoms arose from the uterine prolapse alone. Candour obliges me to state, that in one, the first of these patients, the discovery of the morbid condition of the rectum was purely the result of accident. Having placed the woman on her side and uncovered the buttocks for the purpose of examining and replacing the procident womb, I happened to observe, at some distance

from the anus, a minute, almost capillary, aperture from which exuded a serous fluid. On introducing a fine probe into this, I found it could be easily passed for two or three inches towards the rectum; and hence I was led to examine the latter with my finger, when the presence of a most extensive and close organic stricture was discovered. There were three other fistulæ of a like kind around the anus. On careful inquiry I now learned, that for very many months she had symptoms of rectal obstruction, which she set down altogether to the prolapse of the womb, and, therefore, made no reference to them.

The employment of *pessaries*, for supporting the uterus *in situ*, has been strongly condemned by some authors of deservedly high reputation. But most of the objections which have been brought against them are founded on their abuse; and are, therefore, devoid of any real weight. To enter upon this controversy would be foreign to the primary object I have had in view throughout these pages; and which is, to record the results of my own experience and observation. I shall have occasion, however, to notice as we proceed some of the objections urged by Hamilton, Rigby, and others, against the employment of pessaries. Except on a few rare occasions, I have never seen any unpleasant consequence from their use; and in a very small number of instances, they entirely failed to give the required support to the uterus. Using too large a pessary (a globular boxwood one), has, two or three times, been followed by some symptoms of uterine or pelvic inflammation, which subsided in a few days under mild treatment, and the removal of the instrument. In about six or eight instances, I have seen slight vaginitis, or abrasion of the vagina, induced by the prolonged detention of the pessary. This abrasion generally begins, or is most intense, at the upper and back part of the vagina. A very large majority of patients, however, derived from their use the greatest relief and comfort; the uterus being kept in its proper place, and the instrument occasioning, comparatively, no annoyance. Many patients have declared that they were perfectly unconscious of its presence. Professor Hamilton, and others,

would have us believe, that pessaries can never act but as palliatives, and that they subject a patient to the care of a medical attendant for life. I have seen some cases, however, where the displacement was permanently cured by their judicious use; the size of the instrument being from time to time reduced, till its diameter about equalled the normal diameter of the vagina, and could at length be safely dispensed with. One case of this kind was an elderly virgin, who, when she came under my care, had been wearing a globe pessary pretty constantly for upwards of twelve years. I at once substituted a disk pessary, and every two months changed it for a smaller one, till she was able to do without it altogether. She has now been without it for two years, and feels no symptom of a return of the complaint. I am happy to be able to quote the authority of Dr. Dewees, and of Dr. Ashwell, to bear me out in this observation of the occasional curative action of pessaries. What the latter of these gentlemen says on this point is, "I have known many instances of their employment for several months, no other treatment having been resorted to, where a perfect cure has been obtained; so perfect, indeed, that on removing the pessary, the descent has not again taken place." After all, this is not more surprising than the radical cure of a hernia by the employment of a truss.

When a patient applied for the relief of a procident womb, a pessary was not introduced till she had undergone preparative treatment during some days. In the first instance, the womb was returned to its proper place; and by strictly confining the patient to bed, and keeping the bowels soluble, its renewed descent was obviated. An astringent vaginal injection was also used twice a-day. If no ulceration of the vagina or uterus existed, a pessary of suitable size—*i. e.* as small as would remain up—was introduced at the end of a week or ten days. When the uterus remained within the pelvis, any ulceration that was present generally healed with rapidity. Even with the patient in bed, the uterus will sometimes not keep within the vagina: the ulceration is then very

slow in healing, or will not heal at all, as in the following case, where a departure from the above rule was necessary.

Case 2.—*Complete procidentia with large ulceration, healing under use of a pessary.* This was a healthy, active, old woman, and the procident womb formed a large tumour. On the os uteri and posterior wall of the inverted vagina was an ulcer fully two inches square. For several weeks every means were perseveringly but ineffectually tried to heal this ulceration. The womb would not remain up without artificial support, and hence the cause of our failure. A globe pessary was at length introduced, and this succeeded in keeping up the womb. As a measure of precaution it was taken out every three or four days, and a careful examination made to see that it was doing no mischief. It supported the womb, as I have said, and caused no uneasiness whatever. The ulcer now began to heal rapidly; and, at the end of some weeks, none of it remained. This patient continues to wear the pessary, which is removed once every two or three months for a few days and then replaced. It effectually sustains the uterus, and causes no inconvenience whatsoever.

A procident womb must necessarily cause considerable dilatation of the vagina, especially of its lower portion. Hence if a pessary be introduced immediately on the reposition of the womb, it will require to be of a large size. Should it remain up, the ostium vagina will, of course, regain more or less completely its normal calibre, so that when the pessary comes to be removed, at the end of some weeks or months, very great difficulty and resistance may be experienced in withdrawing it. One patient told me, that the forcible extraction of the pessary under these circumstances occasioned more severe pain than any she had endured in childbirth. In another case, where a large spherical boxwood pessary had been in the vagina for some years without being once removed, very great force was required to get it away; this put the patient to acute pain, and actually caused a slight laceration of the perineal structure! We can explain in this way only, the objection urged by Dieffenbach against pessaries,

viz., "that they cause contraction of the vagina." Now, by the preliminary treatment already mentioned, this unpleasant consequence may be entirely prevented. The astringent injection I have generally used was tannic acid and alum dissolved in cool or tepid water, in the proportion of five or ten grains of each to the half-pint. This has all the astringency of the decoction of oak bark and alum, and is much cleaner and more convenient.

Where a patient cannot herself remove the pessary, she should be peremptorily enjoined to return in a couple of months, or sooner should it cause the least pain or irritation, to have it taken out for a day or two and cleaned. By attention to this rule no such accident can ever happen as that which fell under the notice of Professor Hamilton, and led him to renounce the use of pessaries, and never even to sanction them. The subject of this case was "an elderly lady in the seventy-eighth year of her age:" the pessary was of a very objectionable kind—"tin-plate strongly japanned;" and, through the culpable negligence of the patient herself, it was left in for seven months, instead of one month. "On examination he found it so strongly impacted, that any attempt at moving it with the finger was quite fruitless; while, at the same time, it excited such pain as plainly indicated some further mischief. Accordingly, it was discovered that a portion of the pessary had made its way into the rectum."

The utmost degree of local mischief, that I have seen resulting from pessaries, was abrasion of the vagina or os uteri—never amounting to ulceration. In every instance, this arose from leaving the pessary in too long, or from neglecting to remove it when it began to cause irritation. Occasionally the presence of the instrument may be productive of pain in some of the pelvic viscera, and this generally is caused by the pessary being too large. Denman states, that "pessaries when once introduced may generally be suffered to remain for a long time without any hazard or inconvenience, and, I think, I once extracted one which had never been removed for fourteen years." Sir Charles M. Clarke mentions the case of a lady who came under his care, and who had worn a pessary for thirty-four years without its ever having been removed; and

though it was causing her some annoyance, yet this was not sufficient to make her consent to its being withdrawn. I have, myself, extracted a globe pessary that was seventeen years in the vagina without having been once taken out; and I made a careful examination with the speculum, but could discover no ulceration of the os uteri or vagina. Similar cases to these could be multiplied without limit. The fact of a pessary being left so long in the vagina simply proves, that it had caused no pain or annoyance; for, if it had, the patient would have sooner applied to get it withdrawn. These remarkable examples of toleration of the instrument are purely exceptional, and do not furnish any justification for leaving it in the vagina longer than a few weeks or two months at a time. It is far better to prevent irritation by the timely removal of the pessary, than to wait till symptoms of vaginitis have appeared.

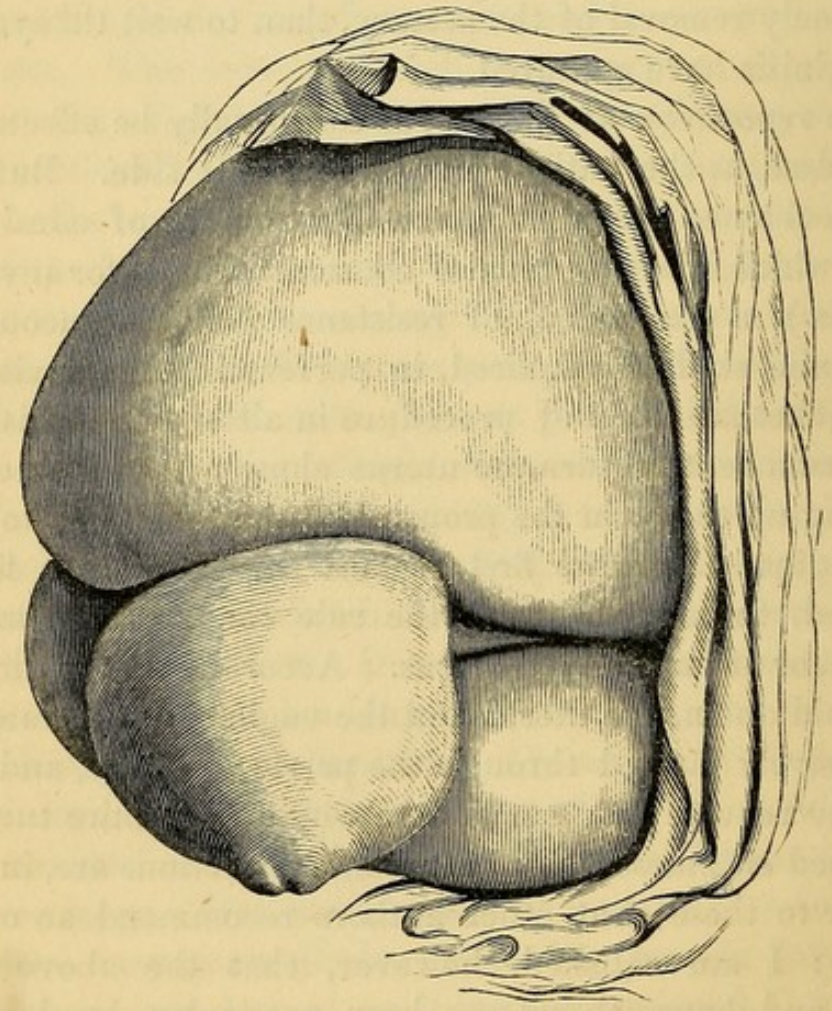
The *reposition* of the uterus can usually be effected with great ease, as the patient lies on her left side. But where the procidence is complete, and the tumour of considerable bulk (which it is sure to be if constantly down for any length of time), a good deal of resistance may be encountered, and some skill be required, in performing the taxis. The most effectual mode of procedure in all such cases is, in the first instance, to return the uterus alone within the pelvis by pushing up the os in the proper direction, and then to return the vagina. Here we first replace the part which first descended, thereby reversing the rule for the reduction of a hernia, or of an inverted uterus. According to the directions just laid down, the uterus and the vagina are separately and successively pushed through the pelvic aperture, and consequently require less space than would the entire tumour if returned *en masse*. Dr. Churchill's directions are, in effect, similar to these; but other authors recommend an opposite course: I am satisfied, however, that the above is the best; and have, therefore, been particular in describing it. If the reposition is likely to be attended with difficulty, it is well to put the patient on her face and knees. In this position the intestines fall forward out of the pelvis, and thus make way for the uterus; atmospheric pressure and

gravitation, also, will now favour the return of the organ to its natural position.

A completely irreducible procidentia has not come under my observation. The following case was the nearest thing to it that I have seen.

Case 3.—*Enormous procidentia uteri; great difficulties in reposition.* This is a small woman, aged 43, a widow, but had three children, the youngest ten years old. Has menstruated regularly, and in natural quantity. There is complete procidentia with eversion of the entire vagina, the surface of the latter being everywhere dry and cuticular. The size of this tumour is very great; its circumference measures sixteen inches. The following woodcut, from an

FIG. 5.



Case 3.—Enormous Procidentia Uteri.

accurate drawing by Mr. Conolly, will convey some idea of the size and shape of this tumour.

An exact plaster cast of this case is preserved in the

Museum of the Lying-in hospital, and in that of the Royal College of Surgeons. The parts had been, she said, in the same condition they are now for *upwards of four years*—the uterus being completely procident throughout the entire of that period. There is no ulceration on any part of the os or vagina. The anterior wall of the rectum is drawn down into the tumour below the level of the sphincter vaginæ. The vagina feels very much thickened, and together with this the body of the uterus seems to be somewhat enlarged, but the os and cervix are of the natural size. I made an attempt to reduce the womb, but soon found that this was impossible without previously diminishing the bulk of the tumour.

She was strictly confined to bed, and the bowels made to act regularly by the use of medicine. The tumour was strapped circularly with strips of adhesive plaster, which were left on for two days when they were removed and fresh applied. On removing the fourth relay of plaster (January 26th, 1859), I found the circumference of the tumour was reduced to twelve inches and a quarter, so I resolved on making another attempt at reduction. With this view she was placed on her elbows and knees; I then pressed up the apex of the tumour till the uterus was fairly within the pelvis, and the os on a level with its lower aperture. Dr. Guinness, who was assisting me, then applied both his hands to return the enormous folds of the hypertrophied vagina within the pelvic cavity. By these combined manipulations, we succeeded; but a great deal of force had to be used, and she underwent considerable pain. For about twelve hours after this she experienced some abdominal uneasiness, but no other ill effect ensued. A globe pessary was subsequently fitted, and it has completely answered in keeping the uterus in its place, and thus enabling the patient to follow her laborious business of a charwoman. It is now upwards of three years and a-half since the womb was replaced.

This plan of strapping the tumour, with a view of reducing its bulk, I have tried in other cases, and with equally satisfactory results. The patient was at the same time rigidly confined to the horizontal position, and the bowels were kept moderately relaxed. If there should be much

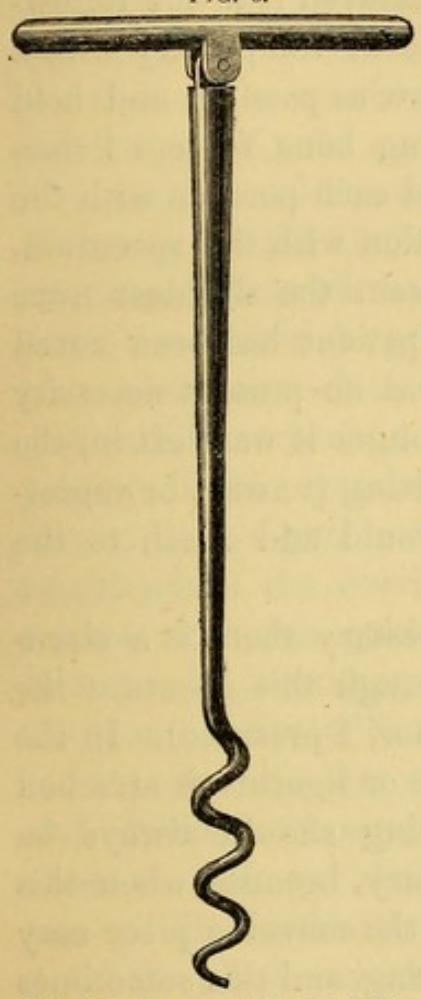
sensibility of the tumour, or ulceration on its surface, the strapping would scarcely be admissible. We must then trust to cold lotions, to position, the application of leeches, or the scarification of the vagina. The use of ergot of rye, too, has been found of service in these cases, by diminishing the volume of the uterus. The attempt at reposition in a difficult case should not be made at the menstrual period, nor unless the bowels have been well cleared out. Attention to these circumstances will materially contribute to the success of our manipulations. The occurrence of some uneasiness in the lower belly, or even of some slight inflammatory action there, after the reposition of a uterus that had long been down, may be expected; but I have never seen it amount to more than abdominal pain, which a linseed meal poultice or hot stupe sufficed to allay.

Before going any further, it is well to observe, that my experience, relative to the severer forms of the complaint now under consideration, has been derived, chiefly, from hospital and dispensary practice, where globe and disk pessaries were the kinds generally used. For the ordinary run of cases they will be found equal, perhaps, to any other description of pessary; whilst on the score of cheapness and durability they are to be preferred. To remove a globular or oval pessary from the vagina, when the tape or string attached to the instrument is gone, cannot be done without some trouble; and considerable difficulty may be experienced in withdrawing the pessary if the vagina has contracted since it was introduced. Different expedients have been recommended for the extraction of a "retained pessary." Denman advises the employment of the vectis; and Dr. Bond, of New York, invented a pair of forceps for seizing hold of the pessary. But to these contrivances there is at least one serious objection—they add to the bulk of the body to be removed.

For some years back I have used in all these cases a very simple instrument, and found it to answer admirably well: a piece of stout iron wire is twisted spirally (like a cork screw,) for two or three turns at one end; and the other end, leaving an intervening portion of three or four inches, is

bent so as to admit of its being firmly held. The spiral end is to be introduced through one of the holes in the pessary, and screwed in a turn or two, whereupon the most powerful traction may be exerted on the pessary without any danger of the wire losing its hold. The instrument, as made by the cutler, is here represented (fig. 6). The cross-handle at the top is jointed to the stem, so that if the instrument be used through a speculum, this can be removed by depressing the handle. The instrument is available on other occasions besides those we are now speaking of.

FIG. 6.



Spiral Instrument for extracting Pessaries, or tumours, &c.

It might be necessary to break up a globe pessary in pieces in order to get it away, but I have never yet been obliged to resort to this. It is very seldom that we meet with any considerable difficulty in removing a disk pessary, no matter how long it may have been in the vagina. One such case occurred to me very lately, and it is worth relating here.

Case 4.—*Disk pessary irremovable without being broken.* Mr. Nicholls, of Dawson-street, asked me to see this patient with him. She was an aged women—certainly upwards of 60—and had never been married. She had been suffering for a long time from complete procidentia of the womb, which had been so constantly external to the pelvis, that the mucous membrane of the vagina had become quite dry and cuticular. About six weeks ago the organ had been replaced, and a moderate-sized disk pessary introduced to support it. The instrument passed in with such perfect ease, that the patient thought it must soon fall out again. However, it remained up, causing no annoyance by its presence. Within two months after its introduction, Mr. Nicholls deemed it

prudent to take the pessary out for sake of cleanliness; but so contracted had the lower part of the vagina become, that no amount of force could have withdrawn the pessary without lacerating the soft parts. We removed it in the following manner: having caught the edge of the pessary with a vulsellum, it was drawn down as low as possible and held steadily by Mr. Nicholls; with a strong bone forceps I then split the pessary in two, and removed each portion with the greatest ease. On careful examination with the speculum, the vagina and os uteri did not present the slightest trace of abrasion or inflammation. This patient has been cured of her distressing ailment. There was no present necessity for taking out the pessary, but the longer it was left in, the greater would be the difficulty of getting it away, or vaginitis or ulceration might arise, and would add much to the difficulty and pain of extracting it.

At one end of a round or oval pessary there is a circular piece which screws out (and through this aperture the pessary was hollowed out by the turner, I presume). In the shops we generally find that the tape or ligature is attached to this movable end. But the string should always be fastened to the other end of the pessary, because when this has been introduced for some time, the movable piece may happen to be pulled away with the string, and this sometimes leads to troublesome consequences. For if the pessary should chance to turn round, the cervix may get within it and even become incarcerated there, as I once saw.

Case 5.—*Incarceration of cervix in a pessary.* This was an unmarried woman, aged 26, who had suffered from prolapse of the womb since she was eighteen. She attributes the displacement to hard work. Five years prior to my seeing her (in August, 1844,) a globe pessary had been introduced. This completely relieved her from the prolapse, and she was in the habit of removing the instrument herself from time to time. Six weeks previously to her coming to me, the string of the instrument had come away, bringing with it the round button (or operculum,) before mentioned. The pessary itself remained behind, but was beginning to cause her

so much pain and annoyance as to compel her to seek relief. On examination the pessary was felt, and I was at much pains to extract it with the aid of one blade of the midwifery forceps. I succeeded in getting it beyond the vulva, and then found that the cervix uteri was incarcerated within the pessary; and before they could be separated, some forcible manipulation had to be used. The pessary had caused, as might be expected, considerable abrasion of the vagina and os uteri. However, a tepid hip-bath, rest in bed, and mild astringent injections, removed these effects in the course of a fortnight, and a week later she got another globe pessary to supply the place of the one which had become unfit for use.

A similar accident to this may happen with a disk or ring pessary, if the central aperture be too large. It should not exceed three-eighths of an inch in diameter; and even this might admit the cervix of a nulliparous uterus. Chapman relates, with his quaint humour, the case of "a Young Woman, Housekeeper to an old *Gentleman* in the Country," that came to him with "a Complaint of the *Prolapsus Uteri*." He introduced a ring pessary, "very light and commodious;" and, although the circumference of the perforation was only about an inch, yet the cervix became strangulated in it, and was not liberated without much pain and difficulty.

Of the relative merits of the various other kinds of pessaries, my experience does not permit me to form any definitive judgment. No doubt, in particular cases, each will have its particular advantages. The indian-rubber disk pessary, distended with air, has proved a very satisfactory one for general use. It is light, soft, easy of introduction and of removal, but it is not very durable. The "air-pessary," with a tube attached for the purpose of inflation, has not proved satisfactory to my patients. Its advantages, if it has any, are very slight, whilst the presence of the tube in the vulva is generally productive of far more annoyance than the pessary itself. The most sensitive part of the vagina, as of other canals, is its orifice, and hence patients will often complain that the string attached to a spherical pessary, lying at the vulva, causes them far more annoyance than the pessary

itself. For the like reason, I have found that patients could rarely tolerate pessaries made on the principle of a stem, which is maintained in the vagina by a suitably adjusted bandage and tapes connected with the lower or outer end of the pessary. The upper part of this expands into a cup, and being kept at the proper height, it supplies the necessary support to the womb. The great advantage of pessaries made on this plan is, that they cause no distension whatever of the vagina, and that thus, while the uterus is kept in its proper place, the vagina can recover its tone and normal calibre. No doubt these are great advantages. But in practice it will be found that patients who have to go about and exert themselves cannot, without difficulty, wear these pessaries for any length of time; the vulva becomes tender, the pessary is apt to get out of its place, and the necessary tapes and bandages cause much local irritation from the frequent movements of the body. Moreover, every time the woman wants to pass water, the instrument must be removed, or the ribbons, &c., get soiled. If the patient can remain quiet, however, or tolerate the above inconvenience, even the temporary use of this form of pessary is very serviceable, for the reason I have mentioned. In many cases of prolapsus uteri, where the perineum has been extensively injured, this is the only kind of pessary that can be worn.

Some writers speak in high terms of "a piece of soft clean sponge," as forming a very simple and efficient pessary, and possessing the important advantage of being removable and introducible by the patient herself. Dr. West's observations on this kind of support entirely agree with what experience has taught me. He writes: "It is never to be employed among the poor, whose circumstances are likely to interfere with the most scrupulous cleanliness, nor in any case where there is difficulty in retaining the uterus in its place; while, wherever it is used, the sponge ought to be withdrawn every twelve hours and another substituted for it; and no sponge should be re-introduced till after it has soaked for twelve hours in water. The only cases, then, in which sponge is advisable as a pessary,

are cases of the minor degrees of prolapse, where we are fearful lest the evil should be increased by the patient's ordinary pursuits and exercises, while the use of a pessary is a precautionary measure, which there is good reason to expect that we may, in a short time, be able to dispense with altogether." The sponge need not be worn during the night.

A very useful auxiliary in the treatment of prolapse is a well-applied abdomino-pelvic bandage, by which the weight of the abdominal viscera is taken off the uterus. For those who can afford it, Hull's "Utero-abdominal Supporter" is an excellent appliance, and very effectively fulfils the above object. Not only is the displaced uterus benefitted by its use, but many of the attendant symptoms are considerably mitigated. A cold hip-bath every morning is a very efficient local tonic, and eminently useful in women of relaxed habit of body. If half-an-ounce or an ounce of powdered alum be dissolved in the water before taking the bath, its astringent and tonic properties will be increased. Where there is a tendency to this complaint, the patient should be careful to keep her bowels regular, as nothing tends so directly and so powerfully to displace the uterus as straining at stool. After a confinement, such women should be kept to the recumbent position for some weeks.

Patients who have for any length of time been subject to procidence, or to considerable prolapse of the womb, are very apt to suffer from flatulence and other dyspeptic symptoms. It is doubtful whether these are the consequences, as some authors suppose, of the uterine displacement; but I am very sure that they tend to perpetuate it, by lowering the general strength of the constitution and diminishing the tone of the animal fibre. Hence, the exhibition of suitable tonics and corroboratives form an important part of the medical treatment of these cases.

INVERSION OF THE UTERUS.

This very dangerous misplacement of the uterus may follow upon delivery, or be the result of a polypus growing from the interior of the fundus. It occurs much more frequently, however, as a sequela of parturition, the proportion being seven to one, according to the statistics of Mr. Crosse. The experience of Dr. Charles Johnson and myself exactly corresponds with these figures; for, out of eight cases seen by us, there was only one in which the accident occurred independently of the puerperal state. Whether a uterus can become spontaneously inverted, immediately after parturition, is a question of much importance, both medically and ethically. Facts clearly show that, in by far the greater proportion of cases, the uterus has been inverted through the rough or unskilful manipulation of the attendant, generally in the attempt to extrude or extract the after-birth. At the same time, there are some recorded facts which go to prove that spontaneous inversion at this time is, at least, a possible occurrence: and this receives the support of analogy; for invagination, or intus-susception of the intestine, which may be regarded as a similar condition, is undoubtedly of spontaneous origin.

Dr. Cowan, of Melrose, reports a case in the *Edinburgh Monthly Journal*, for June, 1862, where inversion was produced *eighty hours* after delivery, in consequence of the patient suddenly leaping out of bed. Though she presented some symptoms of a formidable, but ambiguous kind, he was not aware of the displacement till it had existed for about fifty hours; and in three hours afterwards, Dr. Simpson con-

firmed his diagnosis and replaced the womb, the woman being under chloroform. She subsequently went on very well. It is to be regretted that this case is not very minutely detailed, nor the grounds of diagnosis explicitly stated. "On introducing my finger," he writes, "into the vagina, I found that passage occupied by a foreign body. I had at first great difficulty in satisfying myself of its nature. It was of too firm consistence for a clot; it was not a polypus; it was not a fibrous tumour. On further examination, I came in contact, on one side of it, with that peculiar sort of rough surface which is felt on scraping off an adherent placenta. The mystery was now solved. The tumour was the uterus itself —the rough surface the part of it to which the placenta had been attached—in other words, inversion of the uterus had taken place."

Both Ané and Baudelocque bear witness to inversion having occurred on the third day after delivery, and Le Blanc on the tenth day. (Colombat.) Such occurrences, however, are of extreme infrequency. In fact, the bare possibility of their happening, except as the result of polypus, would seem to be scarcely admissible. Dr. Burns, in explanation, supposes that a partial displacement had, in every instance, previously existed; the change from which to complete inversion was the cause of an immediate development of acute symptoms. I would venture to suggest that, perhaps, in the above case of Dr. Cowan's, some depression of the fundus had existed from the time of delivery, the conversion of which into a complete inversion might easily have occurred by the sudden assumption of the erect posture, if the uterus happened to be in a relaxed condition at the time.

When inversion takes place independently of parturition, it is generally the result of natural efforts; but attempts to extract a polypus may have the effect of inverting the womb, as experience abundantly testifies; and this is a point well deserving to be borne in mind.

No example of acute inversion has fallen under my notice. Its diagnosis is seldom attended with difficulty, and the treatment to be pursued is sufficiently plain.

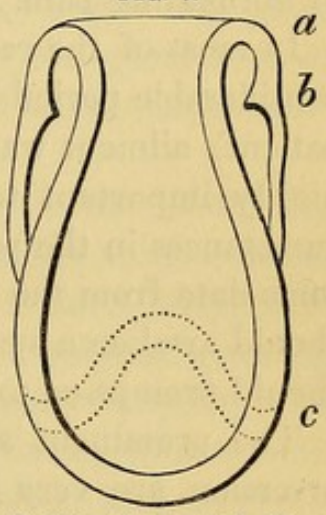
The *symptoms* which attend are, for the most part, the result of nervous shock. At the moment of its occurrence the woman complains of a severe and distressing pain in the pelvis; she feels a desire to strain or force down; nausea or vomiting is commonly present, with a small frequent pulse, clammy sweats, hæmorrhage, and sometimes extreme depression or tendency to collapse. In particular cases some one or other of these symptoms will predominate, and the others be less defined; and it is not impossible for all of them to be absent.

But symptoms alone can never assure us of this displacement. Even external examination cannot always determine the question, as a considerable tumour in the supra-pubic region may be felt where the uterus is completely inverted. It is by careful internal examination only, that the diagnosis of inversion is to be arrived at. The relations of the tumour to the os uteri and vagina are to be carefully noted, as they supply the most trustworthy diagnostic information; and this observation equally applies to the chronic form of the complaint. If the womb be inverted, we find on passing the finger, or a bougie, upwards along the tumour, that it is arrested by a *cul de sac* all around, about an inch, or half an inch, within the os uteri. The depth of this depends on the degree of inversion—the greater this is the shallower will be the *cul de sac*. It is even possible that there may be no such *cul de sac*, the os uteri being entirely obliterated; in which case, the outline or surface of the tumour is found to be quite continuous *all* round with the vagina. Such a condition is rare, I imagine, though it was observed in one of the chronic cases about to be related.

The inverted organ may be extruded beyond the vulva, when its recognition will, of course, be more easy. In the case recorded by Drs. Sinclair and Johnston, the attending pupil was making pressure on the hypogastrium with the hand, when "the uterus was felt suddenly to yield and recede from his grasp, and he immediately saw it expelled from the vagina, an inverted mass, with the placenta still attached to its surface."

Different directions have been given with regard to the precise mode of re-inverting the organ. The placenta, if not already removed, will have to be detached. This does not necessarily increase the hæmorrhage that is generally present in greater or less quantity; and by lessening the bulk of the tumour it renders reposition more certain and easy. It is generally stated in systematic works, that we are to set about replacing the organ by re-inverting first the depending fundus, or in the words of Sir Charles Clarke, "by making pressure on the lower part only of the tumour, so as to cause this part to be received into that above it." By proceeding after this manner, we should give the uterine walls a second inflexion; and we should, necessarily, require a greater dilatation of the constriction to admit of reposition. The following diagram will help to bring out my meaning.

FIG. 7.



Section of Inverted Uterus, showing angles of inflexion.

Here *a* is the angle of inflection, caused by the inversion; *b* indicates the position of the os uteri; and *c* shows how the second angle of inflection would be produced by depressing the fundus, which the dotted line represents.

It would appear, therefore, that in the attempt to re invert the uterus, we should aim at replacing *the part that has last come down*, and so changing the angle of inflexion according as each successive circle of the cervix and body are pushed up. This was the course pursued by the late Dr. Montgomery, who thus described the manipulation. "Grasping the tumour, I compressed it as strongly as I could from the lateral circumference towards the centre, and at the same time pushed it upwards and forwards towards the umbilicus; for several minutes this proceeding seemed quite without effect, but at length I felt the tumour begin to yield, receding and gliding, as it were, by a spontaneous movement *of the whole tumour* upwards, and not of the lowest part of the fundus re-entering itself; and then, all at once, it sud-

denly almost sprung away from my hand and was restored to its proper place." By pursuing this plan we strictly adhere to the maxim laid down by surgical writers for the reduction of a hernia, viz., to return first the part which has last come down. If the patient be not in so collapsed a state as to forbid its administration, chloroform will prove a most valuable auxiliary in the treatment. Not only will it make the patient insensible to the pain, and passive under our manipulations, but, if given to the full extent, it will render the taxis less difficult by relaxing the muscular contraction of the uterus. This is one of the cases in which the inhalation of chloroform has a beneficial effect over and above that of abrogating pain.

In most of the recorded instances of *chronic* inversion, a considerable period had elapsed before the true nature of the patient's ailment was discovered. In all doubtful cases, it is highly important to investigate with care the leading circumstances in the patient's history; and whenever the symptoms date from the time of labor, or soon after, this in itself should awaken a suspicion of the uterus being inverted, and should prompt us to institute a minute exploration.

The prominent *symptoms*, in nearly all cases of chronic inversion, are very much alike. They are, profuse hæmorrhagic and leucorrhœal discharges; the occasional prolapse of a tumour to the vulva, or beyond it; severe lumbar pains, with general debility and weakness proportionate to the extent of the above symptoms. The differential diagnosis generally lies between polypus and inversion. The various distinctive marks proper to each I shall have occasion to notice as we proceed.

The great majority of these cases, when left to themselves, have a fatal termination—the patient sinking sooner or later under the profuse and exhausting discharges. On some very rare occasions, the accident has not been followed by hæmorrhage, or other serious symptom; and, still more rarely, spontaneous re-inversion was supposed to have taken place; but of this I shall have to speak further on. In the sixth edition of his "Treatise on the Diseases of Females," Dr.

Dewees states, that he had seen altogether *nine* cases of inversion of the uterus, *three* of which were fatal; *three* remained inverted; and *three* were reduced pretty soon after the accident.

It is needless to say that uterine pregnancy cannot possibly take place with inversion of the uterus; and that conception is in the highest degree improbable. Dr. Dewees gravely speaks of this as a "remarkable circumstance attending the inversion of the uterus." We can see nothing at all remarkable in it; on the contrary, the occurrence of uterine conception, in the presence of this displacement, should be regarded as nothing short of a supernatural circumstance. That some form of extra-uterine pregnancy might take place is not absolutely incompatible with the physiological laws of generation; though, as before remarked, a highly improbable occurrence.

Three cases of chronic inversion have come under my immediate observation. In two of them the misplacement followed upon parturition; whilst in the third instance, it arose spontaneously, and was induced by a polypus growing from the fundus of the womb. I shall make no apology for giving these cases in detail, as they abundantly illustrate all the leading points of interest in the semeiology and diagnosis of chronic inversion.

Case 1.—*Inversion of five years standing; successful extirpation by ligature.* This patient was admitted into the chronic ward of the Lying-in hospital, under Dr. Charles Johnson, then master of the institution, on the 30th August, 1844. Five years previously, she was confined of her second child, in the Co. Longford. For the last six weeks of her pregnancy she had repeated attacks of flooding. It would appear from her account, that the child presented preternaturally; and, after a continuance of the labor pains for thirty-two hours, the attendant—a low ignorant pretender—used some forcible manipulations to accomplish the delivery of the child and placenta. In ten or twelve hours afterwards she had occasion to get up, whereupon a tumour protruded from the vagina, but she immediately put it back. Being

confined to bed for two months, she recovered very slowly; as whenever she got up and went about or exerted herself this tumour made its appearance externally. At the end of ten weeks she was able to leave the bed and resume her usual occupation; but, very soon after this, she began to have discharges of blood from the vagina. From that time to the date of her admission, a period of five years, she had profuse menorrhagia; and, during the brief intervals of this flux, she had copious leucorrhœa, and was liable to a recurrence of hæmorrhage after using any bodily exertion. Her transparent bloodless complexion at once announced the great losses she had sustained. Any exercise, however moderate, brought on palpitation and dyspnœa. She suffered much from lumbar pain, and not unfrequently had headache and very distressing nausea or vomiting. Whenever she strained, or used any expulsive effort, she became conscious of the presence of a tumour in the vagina. Except in these particulars her constitution was sound, and there was no indication of disease in any other part of the system.

On making an internal examination, a globular tumour was readily felt low down in the vagina. When this tumour was gently handled no complaint of pain was made, nor did she seem conscious of what was being done; but if rudely pressed some uneasiness was produced, and was referred to the small of the back. The surface of the tumour was of a deep red colour, and had a rough somewhat villous appearance; and a sanguineous discharge was distinctly seen exuding from it at numerous points. At the time of this examination the catamenia were present. The tumour was somewhat smaller in diameter above than below; and encircling its neck was the os uteri. When a catheter was passed up within the os uteri, it was arrested at a distance of about three quarters of an inch, and this took place at whatever point the attempt was made in the circumference of the neck of the tumour. The result of this last exploration left no doubt on our minds but that the tumour was the inverted uterus; which opinion was in strict accordance with the history of the case, the appearance of the tumour, and the

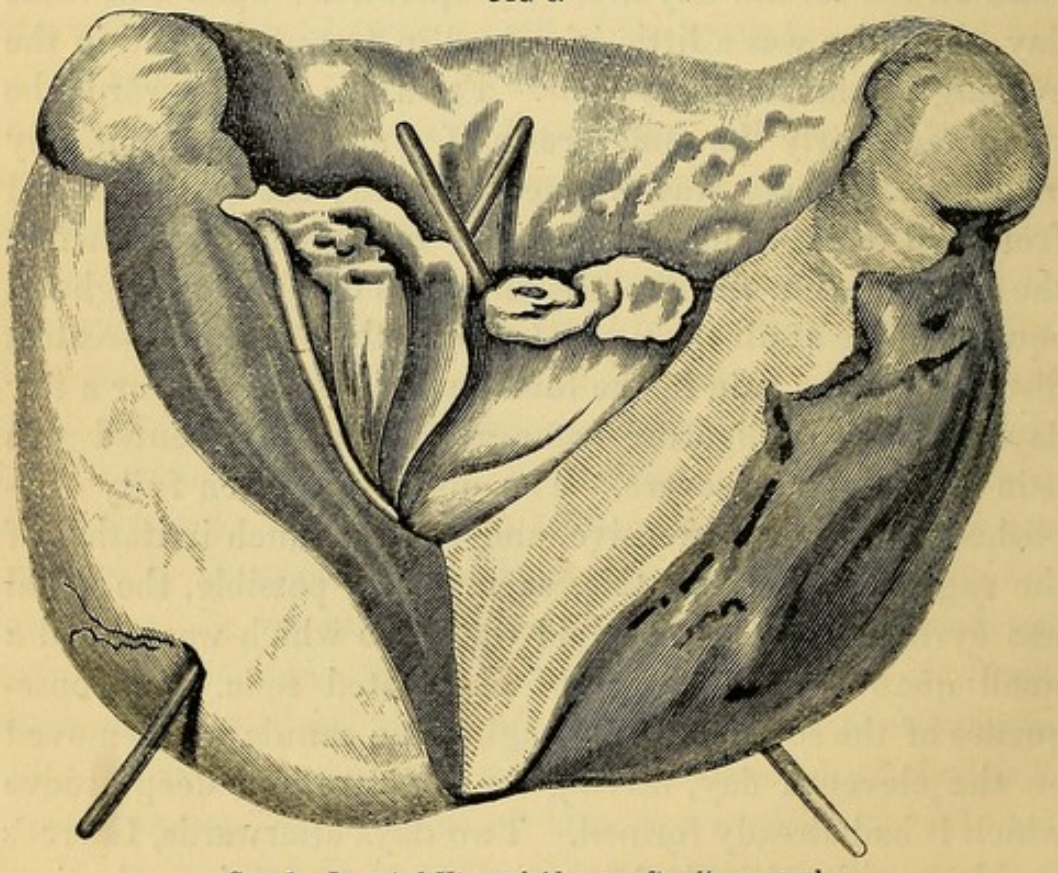
circumstance of blood issuing from innumerable points of its surface at the time of the menstrual flow.

This conclusion having been come to, Dr. Johnson determined on attempting the extirpation of the organ by means of the ligature. Accordingly, on the 18th September, Dr. Hardy and I assisted him in applying a ligature of strong fishing line round the neck of the tumour with Gooch's canula. After it was tightened she complained of some pain in the back, and a slight discharge of blood took place. The canula was left between the anterior part of the tumour and the vagina; its tip was close to the os uteri. In the afternoon she had so much sickness of stomach, and pain in the back and uterine region, that the ligature had to be slackened, by which great relief was obtained. The evening of next day it had to be relaxed still more, in consequence of continued nausea and pain in the lower belly. Notwithstanding that the ligature was thus loosened, the discharge had become fetid on the second day after the operation: upon this same day, the pulse was a little increased in frequency, and in the evening she had a slight rigor. From this time forward, she presented nearly the same group of symptoms, varying only in degree. There was frequent nausea; the pulse ranged from 100 to 120, but had no other inflammatory character; the tenderness in the hypogastrium was constant, though not equally acute at all times; and, lastly, the source of greatest distress was the pain in the lumbo-sacral region. For a few days before the ligature came away, she represented this pain as being very severe. The discharge, when fully established, was highly offensive, and caused much irritation of the vagina. To lessen this, as much as possible, the canal was syringed daily with tepid water, to which was added a small quantity of solution of chorinated soda. In consequence of the soreness of the vagina, the canula was removed on the eleventh day, leaving the ligature in a deep groove which it had already formed. Two days afterwards, Levret's canula was introduced; but every attempt to tighten the ligature was followed by such an aggravation of the pain, and of the sickness of the stomach, as obliged us to desist.

To relieve the more urgent symptoms of pain and loss of rest, opiates had frequently to be given; and, latterly, their daily administration was indispensable. The catheter had only to be passed twice or thrice within the first few days, and not afterwards.

On the eighteenth day, the neck of the tumour was only half cut through; and on the twenty-eighth day, Dr. Johnson divided, with a bistoury, the portion remaining uncut, which was very small. The removal of the uterus from the vagina was productive of considerable pain, owing to the soreness of this canal, and the bulk of the tumour, which about equalled the head of a five months' fœtus. The accompanying woodcut (fig. 8) is a reduced sketch of the uterus laid open, so as to exhibit the remains of the broad ligaments and Fallopian tubes. There was no adhesion between the peritoneal surfaces of the extirpated uterus. The preparation itself is in the Museum at the Lying-in hospital.

FIG 8.



Case 1.—Inverted Uterus laid open after its removal.

From this time forward she progressed in the most satisfactory manner. A vaginal examination, made three weeks

after the removal of the uterus, found the os tincæ rather patulous. On the fifteenth day after the ligature came away she was up, and on the twenty-sixth day she returned home. Six weeks after this she was seen, at my request, by Dr. West, surgeon to the Co. Longford Infirmary, who informed me that she was in perfect health, and only suffered from a feeling of weakness, occasionally, in her back.*

It is worthy of note, that from the time the ligature was put on all hæmorrhage ceased, except the little which took place on the moment. This is the more remarkable as the noose had to be relaxed a few hours after its first application, and was slack during the greater part of the period that it remained round the tumour. This fact is of some importance, as it corroborates an observation of the late Dr. Joseph Clarke, "that the pressure of the ligature is capable of restraining the discharges," although it may not be practicable to continue it sufficiently long to effect the removal of the inverted organ. Dr. Ramsbotham has published the history of a case, in which the ligature had to be removed at the end of twenty-four hours, owing to the appearance of violent symptoms of peritonitis; nevertheless the profuse sanguineous and mucous discharges ceased, and the patient regained the enjoyment of very good health.

This was the fifth instance in which Dr. Johnson removed the inverted uterus, and in each with complete success. In all of them the ligature was the means used for extirpating the organ. In the previous cases he used a ligature composed of fine well-annealed silver wire and silk twisted together, and applied with the short double canula of Levret.

Case 2.—*Inversion of fourteen months' standing; successful extirpation by ligature and écraseur.* Anne Ratigan, aged 22, mother of one child, tall, thin, and of very anæmic aspect, was admitted into the chronic ward of the Lying-in hospital, 24 September, 1858. She states that for upwards

* A history of this case was published in *The Dublin Journal of Medical Science*, vol. xxvii. Old Series. In a foot-note to this paper will be found the histories of two of Dr. Johnson's other cases of extirpation of the uterus: and the remaining two were published by himself in the third volume of *The Dublin Hospital Reports*.

of twelve months she has had profuse discharges of blood from the vagina, that have greatly weakened her. At times these have been so excessive as to endanger her life. The hæmorrhage always comes on at the menstrual period, and continues for fourteen or twenty-one days, but may be brought on at any time by much bodily exertion.

On making internal examination, a pediculated tumour, of pyriform shape, the large end being about the size of a walnut, was found low down in the vagina. The neck of this tumour was embraced, but not constricted, by the thin os uteri. It was moderately firm—fleshy, in fact—to the feel, and was perfectly insensible to ordinary manipulation. Its surface was smooth, and of a dark pink colour; and, when scratched or abraded, blood was discharged. She complained of no pain, and said she had not felt any, except of a comparatively trifling kind in her back—rather a sort of aching—for a short time after the more profuse losses of blood. So far, then, her case possessed all the characters of a polypus. Her pulse, I may remark, was small and weak; and, generally, about 80 in the minute.

Some days after her admission, I elicited from this patient (who was very quiet, and uncommunicative), the following additional information as to the history of her case: that she came from the county of Meath, where she was confined of her first child fourteen months ago, under the care of a rude country midwife; that her labor was protracted; and that much delay and difficulty occurred in the removal of the after-birth, "which," she says, "twice slipped from the nurse," the cord having been broken in the previous attempts to get it away. She further informed us that ever since her confinement she has been subject to recurring hæmorrhages, and also to the occasional prolapse, beyond the vulva, of a fleshy mass, which required manual efforts for its replacement.

This history could not fail to excite a strong suspicion that the case was one of chronic inversion of the womb. But opposed to this supposition were, the smoothness and insensibility of the tumour, the absence of any bleeding points on

its surface, and its occasional prolapse beyond the external parts. To this last, Dr. Montgomery attaches considerable value as distinguishing a polypus from a chronic inversion of the womb.

Another circumstance, which seemed somewhat irreconcilable with the existence of an inversion, was the small size of the tumour. In Case 1, the inversion was of five years' standing, and yet it equalled in bulk a very large orange; whereas in this case, although of only fourteen months' standing, the tumour scarcely exceeded in magnitude the healthy unimpregnated uterus.

Intending to remove the tumour with the écraseur, should it prove to be a polypus, I drew it down beyond the labia by means of a vulsellum. This was effected without force, and with little annoyance to the patient. On passing the finger along the neck of the now extruded tumour, I found that the os was entirely effaced—not a trace of it could be detected; and the vagina was perfectly continuous with the neck of the tumour at every point of its circumference, without any intervening lip or projection, such as the os uteri would occasion. On replacing the tumour within the vagina, the os uteri again became developed, and could be distinctly felt in its former position. A bougie passed within it only a very short distance, not quite half-an-inch, and was arrested at this height all round. The results of these explorations led me to the conclusion that we had to deal with a chronic inversion of the womb. This opinion was subsequently concurred in by Dr. Johnson and Dr. Churchill, who were good enough, at my request, to see the case. On examining high up within the rectum (as suggested by Dr. Arnott), the uterus could be surmounted by the finger, at least, so thought Dr. Churchill and myself. Had this manœuvre been practised when the uterus was external, the indication would, doubtless, have been much more clear and satisfactory.

The case seemed in every way, as appeared to us, a favourable one for attempting manual reposition. The os uteri felt relaxed; the uterus was small; and its substance admitted of being easily indented with the finger. Accordingly, on

three different occasions—viz., on the 4th, 8th, and 13th October—the taxis was tried. In each of these attempts I endeavoured to effect the reduction of the misplaced organ in the following manner:—The patient, having been chloroformed, was placed on her back at the edge of a bed, with her legs drawn up and separated. The hand was then introduced into the vagina, and firm compression and upward pressure were simultaneously made upon the body of the uterus. This was a very fatiguing piece of manipulation, the hand very soon getting benumbed and powerless. During the brief intervals of relaxation (to allow the hand to recover its power), a steady pressure was maintained against the lowest part of the uterus, by means of a round piece of wood about eight inches long, with a shallow, cup-shaped extremity. The uterus could be very distinctly felt through the abdominal parietes, so that my other hand was able to co-operate, by making regulated pressure above the pubes. The only effect of each of these operations upon the uterus was, for the time being, to reduce the size of the fundus and body; and this diminution seemed attributable rather to the simple effect of squeezing and compressing the organ, than to any replacement of its inverted portion.

On all these occasions I adopted the course of proceeding described by Professor White, of Buffalo, U. S., the report of whose surprisingly successful cases had just then reached me. On the evening previous to the first operation I applied extract of belladonna very freely to the os uteri, and some hours later she got an enema of starch and laudanum. This (first) operation lasted fifteen minutes. The patient exhibited such marked symptoms of prostration—pallor, coldness of the surface, failure of the pulse, vomiting, involuntary discharge of fæces, &c.—that it was deemed imprudent any longer to persevere. Drs. Churchill and Kidd were present during the operation, and Dr. Byrne, one of the assistants, administered the chloroform on this and the two other occasions. The second and third attempts at reduction respectively occupied twenty-five minutes, and each time I had to desist in consequence of the supervention of a state of pros-

tration bordering on collapse. This did not quite pass away for some hours, but probably would not have lasted so long if the patient had not obstinately refused to take any wine or brandy. Whether this alarming depression was in any way ascribable to the chloroform, I cannot take upon me to say. She certainly took a strong aversion to its inhalation, and it was with very great difficulty she could be induced to breathe it on the last occasion. In the intervals between the operations, the instrument already described was used night and morning for some minutes in pressing up the uterus. Beyond the temporary weakness just mentioned, and the occurrence of some hæmorrhage, no ill effects, strange to say, followed these manipulations.

Only one alternative now remained, and that was the removal of the misplaced portion of the womb. To effect this, there was a choice between the ligature, the knife or scissors, and the écraseur. I resolved to employ the first and the last; but was not quite decided how long to leave on the ligature before performing écrasement, whether for twenty-four or forty-eight hours. In conferring with Dr. Johnson upon this point, he was of opinion that the ligature should not be removed under forty-eight hours at least. This sound advice was strictly followed.

At morning visit of October 20, I passed a ligature of silk fishing-line, prepared in oil, round the neck of the uterus, by means of a Gooch's canula; and having drawn it moderately tight, fastened it. The top of the canula was just within the os uteri. Very considerable pain was complained of when this was done, and in the course of two hours it much increased, and she presented symptoms of general depression, with vomiting. By the aid of warmth and mild stimulants, reaction was brought about. A grain of morphia was given in pill, soon after which the pain began to abate. At 7 p. m. the pulse was 80, and she was quite free from pain or tenderness. The ligature was tightened, and she got half a grain of morphia and two of dried carbonate of soda. The next day she was going on satisfactorily, the pulse being quiet and no pain present; but she had at times some sick-

ness of stomach, and at midday there was a slight return of the faintness. The ligature was drawn a little tighter. The uterus, as seen through the speculum, presented a dead white color, having quite lost the deep pink which it had before the operation. At forenoon visit of the 22nd, the only change in her condition worth mentioning was, that the discharge from the vagina though very small in quantity, was decidedly, and for the first time, fetid. This showed that strangulation had taken place, which might have been doubted from the color of the uterus.

The ligature had now been on for forty-eight hours; and, preparatory to using the écraseur, we urged her to inhale chloroform, but this she positively refused to do, declaring she would in preference suffer any amount of pain. Her endurance, however, was not put to a severe test. Drs. Churchill, Denham, and Byrne being present and assisting me, I very gently drew down the uterus with a vulsellum, until it appeared between the labia—just, enough, in fact, to permit of our carrying the chain of the écraseur around it, and no more. She lay on the left side, with the thighs well flexed, and the handle of the instrument was directed backwards. The chain having been securely lodged in the sulcus made by the ligature, this and the canula were withdrawn. The écraseur was worked very slowly, and eight minutes passed over before the uterus was severed. Pain of a severe, though not of a sharp or an acute kind, attended, but no hæmorrhage of any amount. It was thought prudent to abstain from making any examination, and even from syringing the vagina. She was enjoined to observe the strictest bodily quietude, and one grain of acetate of morphia was given to her. To prevent even the slight exertion attendant upon voiding the urine, this was drawn off with the catheter for the next few days.

At 2 o'clock she was easy; pulse 96; no hæmorrhage.

At 7 p. m. the pulse was 120; she complained of pain, and there was considerable tenderness in the hypogastric region; there had been no rigor, however. A turpentime

epithem was applied to the belly, and she was ordered half a grain of calomel and the same of opium every third hour.

She passed the night tranquilly, and in the morning (23rd,) the pulse had fallen to 104, the pain had nearly ceased, and there only remained some tenderness and some fulness above the pubes. There was a little discharge of a serous nature from the vagina. Her pills were continued for to-day, and she was allowed some chicken broth cold, as the stomach was irritable. Her pulse at visit next morning (24th,) was down to 88, and, she was in every respect improved, except for the presence of some sickness of stomach, which gradually subsided. In the course of a few days all hypogastric tenderness and fulness were entirely removed. She was not permitted to get up for a fortnight, and she returned home the 2nd December, having rapidly regained health and strength since the operation.

This case very strikingly exhibits the necessity for caution and strict investigation in the diagnosis of uterine polypi. In *nine* of the cases collected by Dr. Forbes, the inverted uterus was mistaken for polypus. I do not believe that the ordinary digital or ocular examination would, in the instance before us, have suggested, even to the most skilful and experienced, the remotest suspicion of its true nature. Had the patient, from any motive, mis-stated the history of her case, or suppressed the fact of her having had a child, a grave error of diagnosis, and perhaps of practice, might have been committed. It is manifest also, from this and other cases which might be cited, that the characters of the tumour as to size, colour, sensibility, and density, can very rarely be depended on to furnish positive information of its nature.

It has been stated in the foregoing history that when the uterus was drawn externally, every trace of the lip or margin of the uterine orifice was obliterated, but re-appeared when the organ was put back. That this actually took place was plain, not only to myself, but to others who examined the patient, and among their number Dr. Johnson and Dr. Churchill. This circumstance is one worthy of notice, as bearing on diagnosis, although I am not aware that it has

attracted attention before. I could not venture to say whether this sign is present in every case or not; but when it is present, we may safely regard it, I think, as a very unequivocal indication of the uterus being inverted.

It has been supposed, and there are some cases to countenance the opinion, that lactation tends, by restraining ovarian excitement, to prevent or check the hæmorrhage from the inverted uterus. No such effect, however, ensued in the present case. The attacks of hæmorrhage were just as frequent and severe during lactation as after she had weaned her child, which she did not do till it was over nine months old, and till her own strength was utterly exhausted by the double drain on her constitution.

Having entertained sanguine expectations of success, in consequence of the relaxed condition of the os uteri, it was with much reluctance I abandoned the attempts to restore the organ to its natural position. But after giving the taxis what appeared to be a fair trial, I felt it was quite needless, if not highly dangerous, to persevere any longer. The same opinion was entertained by the other gentlemen who saw the patient with me. In another case that I have elsewhere published,* symptoms of an equally alarming kind followed the attempts to reduce a partially inverted uterus of seven weeks' standing. On two successive days strenuous efforts were made to accomplish the reposition of the organ, but without any success. These attempts occasioned great pain at the time, and were followed by most distressing irritability of stomach, and alarming syncope, which recurred again and again for several days, and were then succeeded by a severe return of hæmorrhage. The operator here was the late Sir Philip Crampton.

Dr. Tyler Smith has published the history of a case in which he replaced a partially inverted uterus, of nearly eleven years' standing. This case is a very remarkable one, not alone for its successful termination, but from the fact of a new principle of treatment being acted on. He resolved to try

* *Dub. Med. Jour.*, vol. xxvii. Old Series.

the effects of *moderate and sustained pressure.* "With this intention," he writes, "I passed the right hand into the vagina night and morning, for several days, and endeavoured by squeezing and moulding the uterus with the fingers for about ten minutes at a time, to press the tumour upwards. At first no impression could be made in this way, but after repeated trials, I found the cervix uteri yield a little, and the tumour could be sunk slightly in the os. On each occasion, after removing the hand, I passed one of M. Gariel's large air-pessaries into the vagina and inflated it to as great extent as the patient could bear. By this means a very considerable force was constantly exerted upon the tumour. The air-pessary was worn day and night, with few exceptions, or when it was removed on account of pain, or for the purpose of relieving the bladder or bowels. From the time of the first introduction of the pessary, the hæmorrhage ceased entirely, and the tumour became somewhat less in size. On each succeeding day, it could be passed a little higher within the os uteri. After more than a week of these proceedings, the patient felt a good deal of pain through the whole of one night; and in the morning, when an examination was made, it was discovered that complete reversion had taken place." *I* am not quite so sanguine as to "entertain little doubt of the possibility of replacing the uterus in any case of inversion, by similar means."

If the organ be completely inverted, or hang down much below the os, the pessary would tend to press it backwards or forwards, or towards either side, but not in the direction we want, viz., upwards. This plan of treatment, recommended by Dr. Tyler Smith, has been successfully pursued in another case, of incomplete inversion, of two and a-half years' duration. Three days' manipulation sufficed to bring about the reposition of the organ. Mr. Teale, the gentleman under whose care the patient was, insists upon the importance of attending to the following points:—1. That the squeezing and moulding of the uterus should be done soon after the menstrual period, as the parts are then more relaxed; 2. That the patient should be kept recumbent for a day or two

previously; 3. That the forcible pressure with the hand should be used at intervals, and under chloroform; 4. That the more gentle but continuous pressure should be maintained by the inflated air pessary.

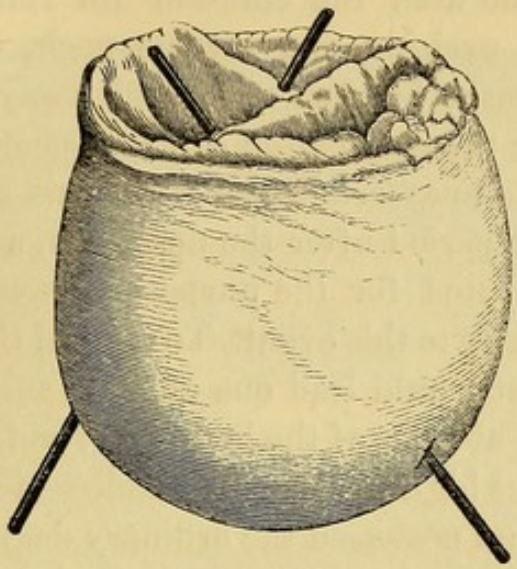
The condition in which the uterus of Case 2 was found, after its removal, seemed to throw light upon two interesting questions. There was no union at any one point between the opposed surfaces of the serous membrane in the pouch, or *cul-de-sac*, formed by the inverted uterus; thus showing, so far as this evidence can show it, that the hindrance to the reposition of the organ did not, at all events, depend on adhesions of the peritoneum. This pouch would easily admit the ungual phalanx of the index finger; yet so unyielding were its boundaries, that I doubted the possibility of reverting the organ (even after its removal) without tearing some of its component tissues. In Dr. Forbes' case, also, recorded in the thirty-fifth volume of the Medico-Chirurgical Transactions, "It was found to be quite impossible, with all the force that could be used, the vagina being dragged down at the same time, to re-invert the uterus" after its removal from the body. The employment of the ligature, it was expected, would cause some adhesions to take place in the peritoneum at the neck of the tumour, and thereby lessen the risk of inflammation, supervening upon the amputation of the womb; and it was supposed that its tight application for a space of forty-eight hours would suffice to attain this object, and yet not expose the patient to some of the dangers (pyæmia for example) connected with this mode of operating.

That the uterus, after its detachment, presented no sign of adhesion in the *cul-de-sac* of the peritoneum, is no conclusive proof, I think, that the desired union did not take place. The portion of serous membrane thus submitted to ocular inspection was *below* the ligature, and consequently strangulated. No act of vitality therefore could have taken place here.

The engraving (fig. 9) shows the size and general appearance of the uterus after its detachment. A probe is passed into each Fallopian tube. That it did not, after deligation,

become livid or at all congested, but on the contrary, of a paler hue, seemed somewhat curious. But this may be

FIG. 9



Case 2.—The Inverted Uterus after its removal; a probe is passed into each Fallopian tube

explained, by the completeness of the strangulation which cut off at once the supply of blood *to* the part; and also perhaps, by the well known facility with which blood escapes from the vessels of this viscus by its mucous membrane. There is no organ in the body that yields blood so frequently, and on such slight occasions, as the uterus, and its anatomical structure goes far to account for this peculiarity.

The écraseur promises to be a valuable instrument for operations upon the uterus. I have now had experience of its use in three cases, and in each with perfect safety. The first case came before me in the early part of the year 1857.* and was one of amputation of the cervix uteri on account of encephaloid disease of the os; neither hæmorrhage nor inflammation followed the operation, and, so far, it was most satisfactory, but the disease returned in a few months.

The peculiar adaptation of the instrument for the removal of uterine polypi is very well established. I have used it for this purpose on several occasions in the course of the last

* A report of this case was published in the *Dublin Hospital Gazette* for 1857, vol. iv., p. 84.

five years, and in every instance with unqualified success. At the same time it is an error to suppose that the instrument is applicable to all cases of polypus. Chassaignac gives several cases where he used the écraseur for removing uterine polypi, and for excising the uterine neck, on account of encephaloid disease; but he does not give any example of its employment for the extirpation of an inverted uterus.

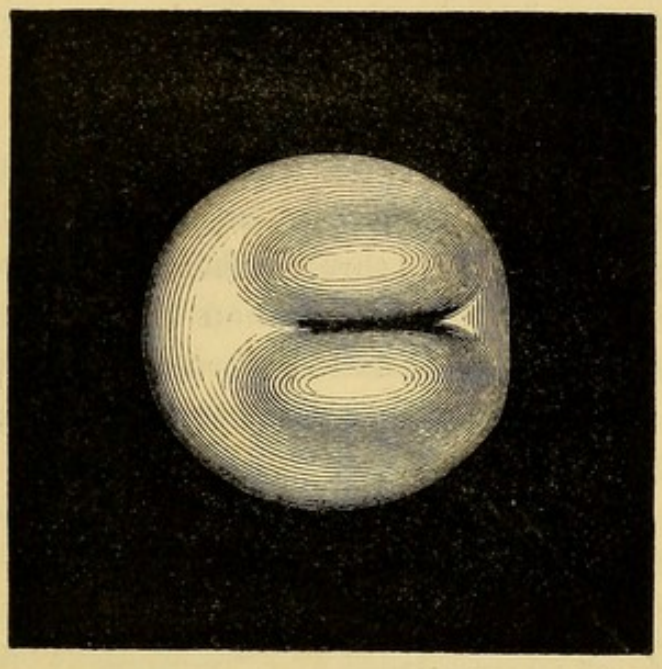
Being anxious to ascertain the conditions assumed by the os uteri at a late period after the operation, a careful examination was instituted for the purpose between five and six weeks subsequently to this event. To the feel the os uteri gave no sensation that would lead one at all to suspect so great a deficiency as the absence of the body and fundus of the organ. The os tincæ was high up, very movable—more so, perhaps, than natural—and possessed the ordinary degree of structural density. When upward pressure was made with the examining finger, it gave rise to no pain or uneasiness in any part of the uterine region. Upon making an ocular examination by means of the speculum, the mouth of the womb was found to present the characters that it commonly exhibits in a woman who has borne children. It was divided into an anterior and a posterior lip by a deep transverse fissure; these lips were prominent, soft, and relaxed, readily admitting the top of the index finger; a catheter could be made, without using any force to penetrate to about the distance of one-third of an inch. The accompanying illustration (fig. 10) will serve to give some idea of the characters of the part.*

In Case 1, the state of the os tincæ, three weeks after the excision of the uterus, very much resembled that in which it is usually found eight or ten days *post partum*, large, soft, and patulous. Mr. Windsor, with a view to ascertain this point in his case, made a vaginal examination, ten weeks after the operation, and the os presented the same characters apparently as represented at fig. 10. Mr. Windsor says that "It did not appear to deviate at all from the healthy condi-

* A history of this case was published in the *Dub. Quar. Jour. of Medical Science*, for February, 1858.

tion;" and again, "that its long diameter was directed laterally and would admit the tip of the middle finger."—*Med. Chir. Trans.* vol. x.

Fig. 10.



Case 2.—Os Uteri five weeks after extirpation of the body of the uterus.

In five or six months after the operation this patient (Case 2) returned to the hospital, in the hope of being cured of amenorrhœa. She had got so robust and healthy-looking that she was hardly recognized, and had nothing to complain of but the non-appearance of the catamenia.

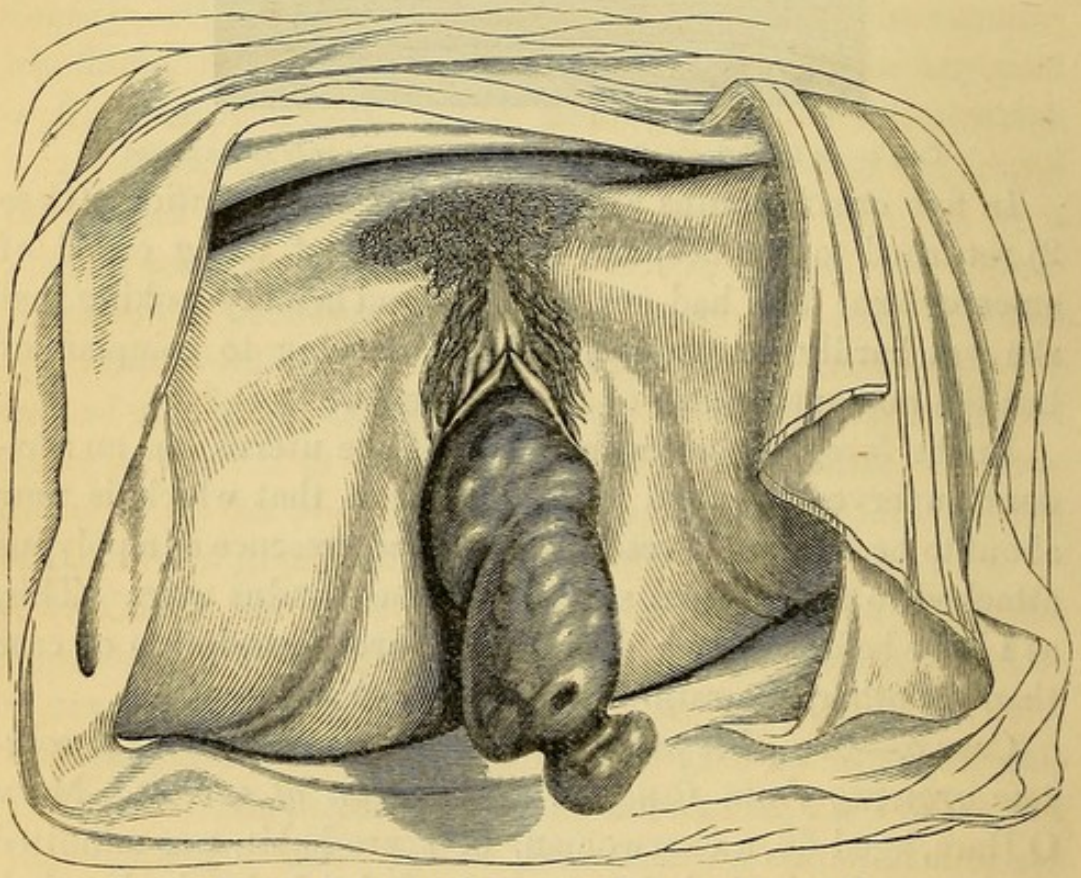
In the foregoing cases inversion of the uterus was an accident supervening upon parturition. In that which is now about to be detailed it resulted from the presence of a polypus attached to the internal surface of the fundus uteri. This, as I have before remarked, is a much rarer description of case than the other, the ratio being about one to seven.

Case 3.—*Complete procidentia and inversio uteri: a polypus growing from fundus: extirpation of uterus.* Mary O'Hara, aged 66, a charwoman, of spare habit, was admitted to the gynæcological department of the Lying-in hospital, 1st April, 1862. She was never married, and her changes ceased about fifteen years ago. Her health has always been good, and prior to her present complaint she never had hæmorrhage, leucorrhœa, nor any other symptom of uterine

disease. The history she gives of herself is this: Six weeks ago when actively engaged scrubbing a floor, she felt sick in her stomach, and during a violent fit of vomiting which ensued, a tumour was suddenly extruded from the vagina, accompanied by the discharge of some blood. A medical man saw her and replaced the tumour within the vagina, but it soon prolapsed again, and remained so till the present time.

Protruding from the vulva was a red fleshy tumour, the extreme length of which was very close on seven inches. The thickest part was the first three inches, then there was a partial constriction, or slight indentation of the tumour, which was terminated by a pediculated fibrous growth, the size of a chestnut. Fig. 11 represents the tumour as seen from the front, so that its length is not well shown.

FIG. 11.



Case 3.—Completely Inverted and Prolapsed Uterus with a polypus growing from fundus.

There were, then, three distinct portions in the tumour. At the free extremity was a fibrous polypus, having a well marked but short neck; this formed the terminal portion of the tumour, and of its nature there could be no doubt. The first two and a-half or three inches,—that is from the vulva to

the circular furrow or indentation,—consisted of everted vagina; the surface here was red and nearly dry except on the spots which were abraded. The portion intervening between this and the polypus was smaller in circumference, and its surface was entirely moist:—in fact it looked as if universally ulcerated. The nature of this part of the tumour was at first somewhat doubtful. Was it an enormous hypertrophy of the anterior lip of the os, ulcerated and with a polypus growing from its extremity? a condition of the os somewhat similar to that represented at fig. 1, page 57: or was it the completely inverted uterus?

After a very careful consideration of all the circumstances of the case, we came to the conclusion that it must be an inversion of the uterus, and this was confirmed by finding the openings of the Fallopian tubes, into each of which a fine probe could be passed a short distance—not more than an inch and a-half. It may seem strange how we could for a moment have supposed it to be anything else than the inverted uterus: but *prima facie*, it seemed highly improbable that so small a polypus should, in the absence of any extraordinary bodily effort, have inverted the organ; and that this polypus should not have given some proof of its existence, prior to the occurrence of the displacement. Furthermore, at the posterior part of the tumour, and corresponding to the line of junction of the uterine and vaginal portions, was a projection of latter which looked very like the posterior lip of os: there certainly was no canal running up from this situation, but, complete obliteration of the cervical canal is so common in aged persons that its absence was by no means conclusive evidence on the point.

There was a good deal of muco-purulent secretion from the surface of the tumour. It was sensitive, but not painfully so unless roughly handled. As may be supposed, it was a source of continual and very great annoyance to her. She could neither stand nor walk without pain and inconvenience; and even when in bed the sensibility of the tumour and the copious discharge from it were productive of no small distress.

Dr. Denham replaced the vagina within the pelvis, and

with it the uterus retired out of view. This procedure put her to much pain from the sensibility and ulcerated condition of the uterus; and it very soon descended again, followed by the vagina.

On the 14th April Dr. Denham removed the polypus by écrasement. The instrument was worked very slowly, nevertheless a smart hæmorrhage ensued, three arteries bleeding at the same time. A strong solution of the perchloride of iron in glycerine was applied, but without any hæmostatic effect. Pressure controlled the hæmorrhage and had to be kept up for some hours, with the top of the finger, which just covered the raw surface left by the operation. Experience has taught me that it is almost impossible to seize a uterine artery with a tenaculum.

The completeness of the inversion, and the patient's extreme intolerance of any squeezing or manipulation of the tumour, altogether excluded the hope of doing any good by attempts at reposition. Extirpation of the uterus was therefore resolved upon, and, when intimated to the patient, met her entire and cordial approval; in fact, she plainly told us "to whip it off as soon as we liked!"

In consequence of Dr. Denham's absence from home, this patient now came under my care, and I determined upon pursuing the same course as in Case 2, with this difference, viz., to leave on the ligature for three, instead of two days, before amputating the organ.

21st April. This morning a whip-cord ligature was carried round the uterus close to the slight groove marking its junction with the vagina. It was drawn tight and confined in its place with the short double-barrelled canula of Levret. This caused considerable pain. She got some wine, and afterwards a dose of solution of morphia, which the stomach, however, did not retain. In the course of a few hours the uterus had become cold and of a dull leaden hue. A little later than this, viz. at 7 p.m., the uterus was somewhat swollen and of a perfectly black colour, and there had been some venous hæmorrhage, apparently from its general surface. The ligature was tightened, the catheter passed, and the uterus

was enveloped in lint moistened with solution of perchloride of iron. She also got a quarter of a grain of powdered opium. She had frequent shooting pains through the lower belly to-day.

22nd. Slept well, voided urine, and ate her breakfast. She is cheerful, and the pulse 100. She gets a few ounces of wine in the day, and quarter of a grain of the watery extract of opium at night.

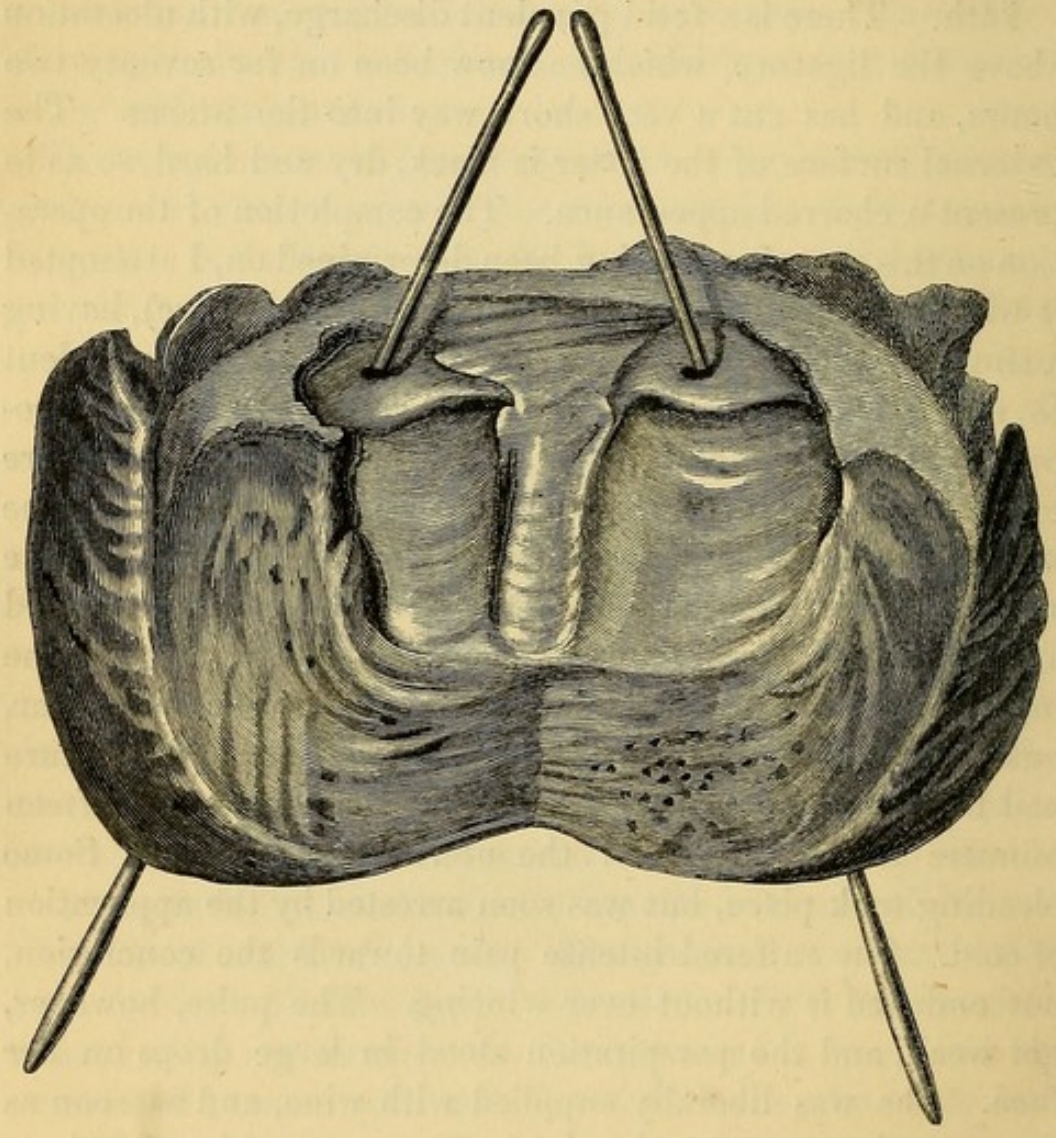
23rd. Going on remarkably well. The ligature was drawn about quarter of an inch last night, and again this morning. She has occasional pains through the belly, and some tenderness of the epigastrium.

24th. There is a fetid purulent discharge, with ulceration above the ligature, which has now been on for seventy-two hours, and has cut a very short way into the uterus. The external surface of the latter is black, dry and hard, so as to present a charred appearance. The completion of the operation on this morning, having been determined on, I attempted it with a small écraseur (of Maissoneuve's, I believe), having a single iron wire in place of the chain, and which was lent to me by Dr. Churchill, for whose presence and hearty co-operation on this and many other occasions I must here express my warm thanks. Owing to the density of the uterine tissue, the strain on the wire was so great that it gave way; and this having occurred two or three times and caused a good deal of disturbance of the tumour, we removed the instrument altogether, and substituted the ordinary écraseur, putting the chain in the bed of the wire, where the ligature had been. This was now worked very slowly, and in fifteen minutes the severance of the uterus was effected. Some bleeding took place, but was soon arrested by the application of cold. She suffered intense pain towards the conclusion, but endured it without ever wincing. The pulse, however, got weak, and the perspiration stood in large drops on her face. She was liberally supplied with wine, and as soon as the operation was completed, she got one grain of opium. During this and the critical period following, she was assiduously watched by Dr. John R. Kirkpatrick, and Dr. Cronyn, the Assistant Physicians to the hospital.

On examining the uterus, its peritoneal coat,—now forming the pouch,—did not present a trace of inflammation, nor was there the slightest adhesion at any point. Its size and appearance when laid open, and a probe inserted into the Fallopian tubes, are shown at fig. 12.

Her recovery from this time forward progressed most satisfactorily. There was really no symptom to create any uneasiness; no rigor; no vomiting; no fever; no peritoneal inflammation. The only medical treatment was the administration of half a grain of opium every night.

FIG. 12.



Case 3.—Uterus laid open after extirpation.

The tumour formed by the everted vagina still remained. It was rather swollen and very tender to pressure for a week or ten days following the operation. I made an attempt

to replace it when a fortnight had elapsed, but finding it would require some force and put her to considerable pain, I thought it more prudent to desist. On the 16th May (*i. e.* twenty-three days from the date of the operation) Dr. Cronyn succeeded, without much trouble, in pushing up the vagina to its proper place within the pelvis, and it did not again descend during the remainder of her stay in the hospital, which was for a week longer. Upon going out she was quite alert and cheerful.

It is somewhat remarkable in the history of this case, that the polypus, though growing from the fundus, should have given rise to no symptom prior to the inversion taking place. In fact, this was one of the circumstances which, at first, led us to doubt the existence of inversion, and to suppose the case was only one of extreme hypertrophy of one lip of the os with polypus.

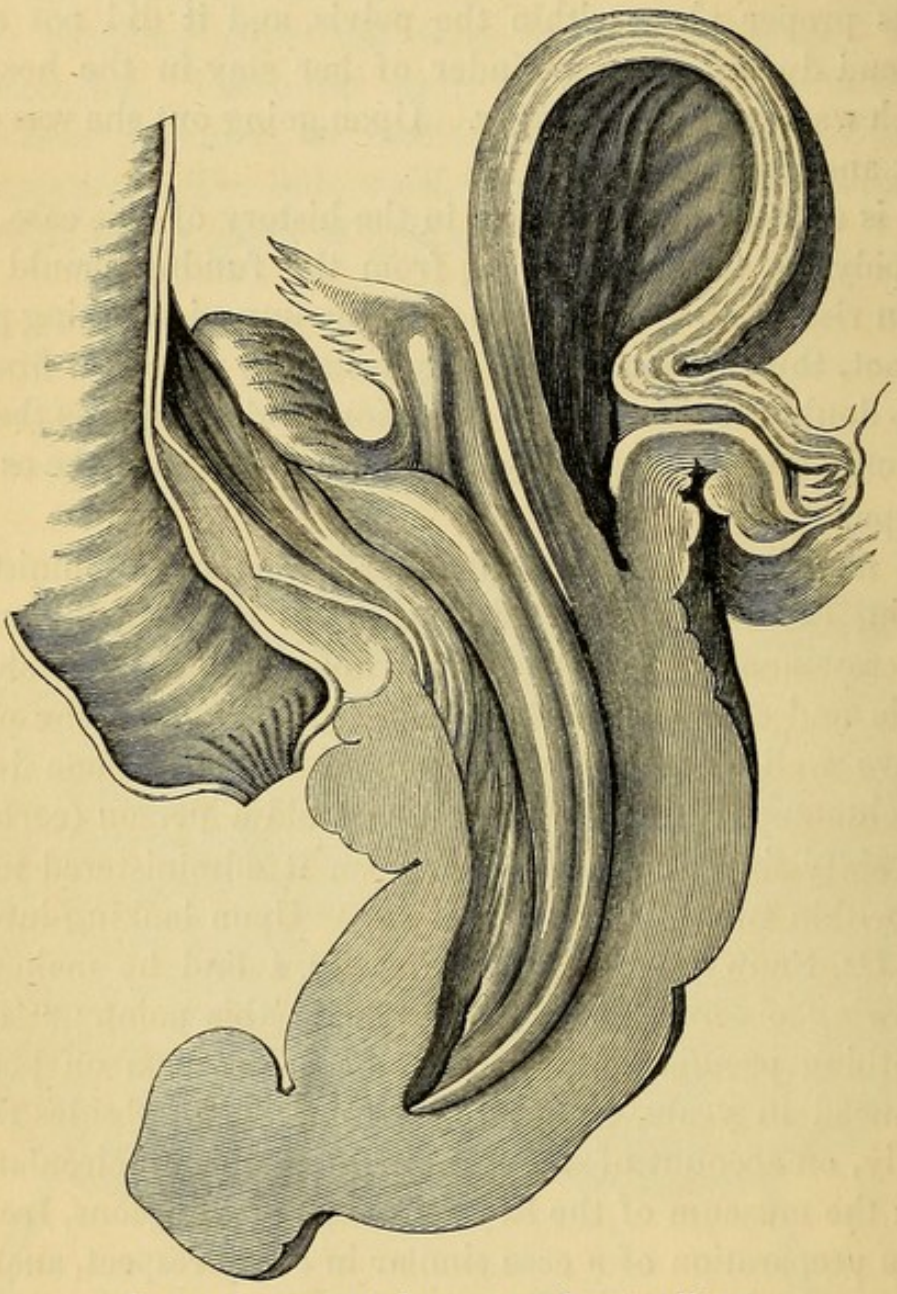
It may be asked why chloroform was not administered during the very painful proceeding of excising the uterus by écrasement? But the patient was a woman of such fortitude and determination, that we had no doubt she would behave well under the operation. I felt, too, some degree of reluctance about giving it to so old a person (certainly over sixty-six), as I had never seen it administered to any one within twenty years of this age. Upon looking into the late Dr. Snow's work on anæsthetics, I find he makes the following observation, in reference to this point. "There is nothing peculiar in the effects of chloroform on persons advanced in years, except that its influence subsides rather slowly, on account of the slower breathing and circulation."

In the museum of the Royal College of Surgeons, Ireland, is the preparation of a case similar in every respect, anatomically, to the foregoing. The accompanying engraving (fig. 13) is copied from Mr. Crosse's lithograph of the preparation, and clearly exhibits the component parts of the tumour, viz., vagina, uterus, and polypus, and their relations to each other.

The following is Mr. Houston's description of this instructive preparation. "Complete inversion of the uterus and vagina, induced by the growth of a polypus attached to the

fundus uteri. The first symptoms experienced by the patient were constant bearing down pain, sense of weakness in the pelvic region, and inability to move about, or to make any trifling exertion; these were, after some time, followed by

FIG. 13.



Section of a completely Inverted and Procident Uterus, with a polypus growing from fundus.

profuse leucorrhœa, occasional menorrhagia, and great irritability of the bladder. The tumour, which was at first confined to the vagina, gradually passed beyond that canal, and formed a considerable protrusion externally: neither pressure nor the recumbent posture had much effect in reducing its size. After suffering for four years, she applied for relief

at the Meath hospital, but died in a short time after admission, completely exhausted by the continued irritation of the disease. One lateral half of the tumour is exhibited in the preparation. The section has been made exactly in the mesial line, and the corresponding portions of the bladder and rectum are preserved *in situ*. The protrusion forms an elongated swelling, about six inches in length; and consists of the following parts; commencing at its free extremity: First, the polypus, as large as an egg, rough, and ulcerated on the surface, and attached by a narrow pedicle; next, the uterus, with its fundus downwards—a black bristle points out the orifice of the Fallopian tube; the organ retains its natural size, and a narrow circular line of indentation or neck marks the situation of the os tincæ, above which lies, most superiorly, the everted vagina—its mucous membrane presenting several patches of ulceration: where the latter condition does not exist, that structure is much thickened, and covered by a whitish cuticular layer. The *cul-de-sac* (or pouch) of peritoneum, necessarily produced by the displacement of the uterus, is extremely well shown; the ovaries and Fallopian tubes are placed within it; and, in addition to these parts, the cavity, when first examined, contained a coil of small intestine, which would, unavoidably, have been included in a ligature applied round the base of the tumour, had this method of removing the disease been resorted to."

It is to be regretted that the age of this patient, or whether she had ever borne children, are not stated. The fact of a coil of intestine being within the tumour, in the case just quoted, deserves particular attention; though from the wording of the sentence it would not appear that this loop of bowel was exactly so low down as the uterus; and if so it would not have been included in a ligature applied for the removal of the uterus only.

Dr. C. West has given a table showing the results of operations for the extirpation of the inverted uterus. Of the *fifty* cases contained in his table the operation was abandoned in *two*, terminated fatally in *twelve*, and successfully in *thirty-six* cases; thus giving a death-rate of one in four.

Should any case of chronic inversion again come before me, calling for extirpation, I would, without hesitation, pursue the same course as that adopted in Cases 2 and 3; namely, ligature the uterus for forty-eight or seventy-two hours, and then complete its removal by the écraseur. To excise the uterus at once would, I conceive, be a most dangerous proceeding; not from hæmorrhage, merely, but from the opening of the peritoneal cavity. In a case where Velpeau excised an inverted uterus, "the finger entered the peritoneal cavity, and came in contact with the intestines." Now the temporary application of the ligature, while it removes all risk of hæmorrhage, tends to excite adhesive inflammation between the opposed surfaces of the peritoneum in the pouch of the inverted uterus, immediately above the line of strangulation. Some security is thus provided against laying open the abdominal serous sac; whilst by this early removal of the uterus, the patient is not exposed to the dangers arising from the prolonged retention of a putrid mass in the vagina. In Case 1 it will be remembered, that at the end of four weeks, the ligature had not cut much more than half-way through the uterus, and all this time the decomposing tumour lay in the vagina, causing great local irritation and horribly offensive discharges.

Further on, I have pointed out some of the dangers resulting from the use of the ligature in the removal of uterine polypi, and no doubt these dangers are not one whit the less when it is employed for the removal of an inverted uterus.

The successful result of Dr. Joseph Clarke's case, in which the inverted uterus was removed with the scalpel, and the patient completely escaped peritonitis, forms no exception, I think, to the observations already made upon this mode of extirpation. It is quite true the uterus was here excised with the knife, and that the woman recovered perfectly: but what are the facts of the case? Some time previously to the amputation of the organ, Dr. Clarke had "passed a ligature on the tumour, in the usual manner, as in cases of polypus." It was frequently tightened; but, at the end of a fortnight, was removed "in despair of success." The

uterus could not have been thoroughly strangulated as it did not slough. But it is impossible to suppose that some local peritonitis was not excited; for, the ligature "gave her great pain, occasioned severe vomitings, and much watchfulness." And this inflammation would have produced more or less adhesion of the peritoneal surfaces of the serous sac of the inverted uterus. In this union, then, lay her safety under the operation of excision.

This case of Dr. Joseph Clarke's, together with Dr. Johnson's five cases, and my two, make in all *eight* cases of chronic inversion which have been treated in this city by extirpation, and in all with complete success. I am not aware of any other case having been operated on here.

What the ulterior effects of this operation are on the constitution, is a question of some physiological interest, and one which our present knowledge of the functions of the uterus and ovaries, and our actual experience enable us to answer. The capability of conception, would of course, be for ever destroyed; and menstruation would take place, only very scantily, or not at all. But the woman would retain sexual feeling, and all the external feminine characters. As the uterus does not discharge any vital function in the economy, the only way in which its removal might affect her physical health would be, by the stoppage of the menstrual discharge, and *a priori* we might reasonably suppose that it would certainly do so. But I do not know of any well marked case in support of this. In most instances the general health greatly improved after the removal of the uterus. Dr. Clarke saw his patient (a very young lady) at the end of three years from the time of the operation, and she was so fat, and so improved in appearance, that he scarcely recognized her. She complained only of bad appetite, and that she had never had her changes. Dr. Johnson told me, that one of his patients became a widow, and subsequently married again.

The subject of Case 2 was only 22 years of age, and when I saw her six months after the extirpation of the uterus, she was fat and robust, and her only source of complaint was

the disappearance of the catamenia. She admitted that her sexual feelings had undergone no change.

In a few instances there has been some very slight appearance of menstrual discharge, probably from the remaining portion of the cervix, or from an abrasion of the os uteri, as occurs in the menstruation of pregnant women. Dr. Clarke's patient, one of mine, and all of Dr. Johnson's patients, were women in the menstruating era of life, and some of them under thirty years of age. It is remarkable, therefore, that they did not manifest any ill effects from the complete—or nearly complete,—and suddenly induced amenorrhœa. Would not this fact seem to show, that the constitutional derangement so constantly attendant upon suppressed menstruation, is rather the cause than the consequence of the non-depletion of a few ounces of blood at the menstrual periods? That menstruation is, in fact, dependent upon the healthy performance of some other and more important function, (probably ovulation,) of which it is, in some measure, the outward exponent or dynamical expression?

The *spontaneous reposition* of the inverted uterus, is a subject that deserves notice before concluding this chapter. The amount of evidence in support of such an occurrence,—even taking this evidence to be of an unequivocal kind,—is no more than sufficient to establish the bare possibility of the inverted organ spontaneously recovering its natural position and configuration. The number of recorded cases in which this natural process of cure was supposed to have taken place, is so extremely small, that we never could venture to regard it in any other light, than as a most improbable and remote contingency; and, therefore, never could allow it for one moment, to influence our practice.

Three dubious examples of spontaneous reposition of the inverted womb, are given by Daillez (a pupil of the great Baudelocque,) and are quoted by MM. Paul Dubois and Desormeaux in their article in the *Dictionnaire de Medecine*. A case is also referred to by Mr. Crosse, as having occurred in the practice of Dr. Thatcher; and Professor Charles D.

Meigs of Philadelphia, has published the details of two cases, in which he himself, and some other experienced American accoucheurs, diagnosed the existence of inversion of the womb; and yet, each of their patients subsequently became pregnant, without any treatment having been adopted for the cure of the displacement, which had entirely disappeared, though at what time exactly, after its occurrence, could not be ascertained.

One of these cases was seen and examined by Professor Hodge, of the University of Pennsylvania, who entirely concurred in the diagnosis of Dr. Meigs. In this instance, six years elapsed between the time of the occurrence of the inversion, and of the pregnancy. In the other case the length of this interval is not stated.

If the misplacement of the uterus be rectified, either by nature or art, the capability of conception is restored. The subject of Drs. Sinclair and Johnston's case of acute inversion (already mentioned at page 78), subsequently proved with child, but miscarried at three months; and fell a victim to the puerperal fever epidemic in 1855.

FIBROUS TUMOURS OF THE UTERUS.

WITHOUT question, the most frequent organic disease of the uterus, if we except inflammation and its effects, is fibrous tumour, or, as it has been variously termed by pathologists, fleshy tubercle, (W. Hunter, Baillie), sub-cartilaginous tumour (Hooper), muscular tumour (Vogel), hysteroma (Paul Broca), &c. Of all innocent tumours, these are the most common. If Bayle's estimate have truth in it, they are to be found in twenty per cent. of all the women dying beyond 35 years of age. For myself I believe this statement of M. Bayle to be a very great exaggeration, but after due allowance for this, the inference founded on it would still be correct.

This heterologous growth is met with at every age from twenty upward, but increasing in frequency up to forty-five or fifty. Twenty-three was the earliest age at which I have met with it. It occurs under every social condition. A single or married life, sterility or fruitfulness, do not seem to have any influence in pre-disposing to the disease. Bayle found that a large proportion of the women with fibrous uterine tumours, whose bodies he examined, showed no appearance of having borne children, nor, in many cases, of having had sexual intercourse, and hence he inferred that celibacy was one of its most influential pre-disposing causes. In this, however, he is assuredly wrong. Dupuytren investigated the point in 58 cases, and found that 54 were married *de facto*, if not *de jure;* and that 42 had borne children. The experience of Malgaigne accords with this; and in *twenty-five* of the cases falling under my own observation, where

this circumstance was particularly noted, *four* represented themselves as virgins, *twenty-one* as being married, and *eleven* as having borne one or more children.

It is not confined to any particular temperament, and I am not aware that it has been noted to have any special connexion with scrofula. Upon this latter point, however, my own observation leads me to think that a scrofulous diathesis is very favourable to its development. In several cases of fibrous tumours of the uterus, I could not help observing how strongly marked were the indications which these patients presented of a scrofulous constitution.

Fibrous tumour is an essentially non-malignant disease, and this is a point of importance to bear in mind. As a rule no pain attends its growth, and the danger to life is not great, unless that arising from hæmorrhage, or from inflammation of some of the parts adjoining the uterus. If we keep out of view these two causes of mortality, the disease rarely destroys life, and even with them the mortality is but small comparatively.

These tumours are generally multiple, so that it is rare to meet with a solitary one of any bulk. It is by no means uncommon to meet with three, four, or more in the same patient. I lately examined a case in which there were seven of different sizes, from a marble to an orange, in the uterus and broad ligaments. Cases are on record, where there were upwards of twenty studding the uterus and its appendages. They are rarely met with in the cervix uteri, but occur with nearly equal frequency in the different regions of the fundus and body of the organ.

The size which fibrous tumours may sometimes attain is very great: in fact there would scarcely seem to be any limit to their growth. One was exhibited at the Obstetrical Society of London, by Dr. Graily Hewitt, which weighed forty-two pounds, its circumference being forty-four inches, and its diameter about sixteen inches. Other cases are on record, where the magnitude of the tumour considerably exceeded that of the case just alluded to.

The degree of vitality in fibrous tumours is very low.

According to Cruveilhier they are merely provided with a system of veins that just suffices for the nutrition of the tumour. Its periphery is enveloped with a vascular network, common to the veins of the womb and of the fibroid. The latter set are few in number, and of very small size. They do not at first view appear to have a proper coat, and Meisner supposed they were merely sinuses, bounded by the proper tissue of the tumour; and hence he called them *conduits hæmatophores.* But Cruveilhier says this is not correct, and that they do possess a proper wall of their own. The plexus of vessels on the circumference of the tumour may be so considerable as to be capable of yielding an abundant hæmorrhage. Fibrous tumours may attain, as we have seen, a very great size, but they vary considerably in their rate of growth, and these differences depend on the vascularity of the tumour, or of the part of the uterus occupied by it. Those which have the most dense and compact structure, are the least vascular, and consequently the slowest in their growth; and *vice versâ.*

There are varieties in the appearance and texture of these tumours not connected with any particular stage of their growth or development (as Bayle and others wrongly supposed), but depending simply on accidental circumstances. Thus the tumour may be soft and fleshy—sarcomatous, as it is called—or it may have a compact and hard structure resembling cartilage, and on rarer occasions parts of the tumour, generally of its interior, become in appearance, ossified. Not true bone, however, for such, any more than true cartilage, is never found in them. "The change is a calcareous degeneration, consisting in an amorphous and disorderly deposit of the salts of lime and other bases, in combination with, or in the place of the fibrous tissue." (Paget). On some rare occasions this process of calcification has taken place on the exterior of the tumour, and thus formed a hard case or shell around it. These various changes have led to the names of fibro-sarcomatous, fibro-cartilaginous, and fibro-calcareous, having been applied to tumours properly belonging to the fibrous class. The records of medicine contain very many

examples of "calculi" or "stones" discharged from the uterus. In the *Memoirs of the Royal Academy of Surgery*, M. Louis relates a case of this kind; but we have the authority of Dr. Robert Lee for stating that it does not appear from any observation contained in his memoir, that Louis possessed a knowledge of the manner in which these bodies are formed. Dr. Matthew Baillie seems to have been the first pathologist to entertain the opinion that these calcareous matters are the result of the conversion, or transformation, of a fibrous tumour. The calcareous degeneration of these growths is exactly analogous to the change which takes place in the coats of some of the arteries at an advanced period of life, and which has been called, though improperly so, ossification. It most probably depends in both instances, on the same cause, namely enfeebled vitality. What gives this structural change such peculiar interest in the case of uterine fibroids, is, that it constitutes one of the modes by which nature effects their cure; just in like manner as she does of pulmonary tubercle by the cretaceous transformation. The calcareous tumour, or uterine calculus, as the older writers called it,—thus formed, may be discharged *per vaginam* entire, or come away in fragments, as happened in the case recently published by Lumpe, of Vienna; or, it may be retained in its original nidus, but having ceased to hold any vital connexion with the economy, its presence is tolerated, and the symptoms which it produced disappear.

Softening of a fibrous tumour sometimes takes place, and may lead to its elimination from the body, though this is extremely rare. Sir James Clarke once met with a case of this kind in a woman aged 28. The tumour could be felt above the pubes the size of an orange. It had never given rise to any uneasiness but was attended by profuse menorrhagia. Sexual intercourse caused extreme pain, and some weeks after her marriage, large masses of firm, lobulated texture, with thinner membranous portions, and of various forms, were passed *per vaginam*, and this continued for several weeks. Recovery gradually took place, after some months, when all uterine tenderness ceased. She became pregnant and bore a living

child at the full term. Now perhaps it is not going too far to suppose, that the irritation and disturbance of the tumour consequent upon marriage, may have brought on inflammation, ending in its death and expulsion from the uterus. I admit this is a very bold conjecture to hazard; as sexual intercourse almost always aggravates the symptoms attendant upon fibrous tumours of the uterus. Partial softening of the tumour is a less infrequent occurrence. I think I have seen it, once at the least, and in this instance it was the cause of a fatal peritonitis, in consequence of the escape of some of the pulpy matter through a perforation of the superjacent serous membrane.

Fibroids may be affected with œdema, and a knowledge of this fact enables us to explain the occasional diminution which their bulk undergoes. The infiltrated fluid is not always found to be equally diffused throughout their substance. It is often confined to one spot only, and may, or may not, be surrounded by a cyst-membrane. Cavities of the former kind are sometimes found quite empty, so that we may suppose the fluid was absorbed: or blood may be extravasated in them.

The presence of cysts in the structure of fibrous tumours is a point of much pathological interest. I have several times seen them in fibrous polypi. "The formation of cysts is not rare in fibrous tumours," writes Mr. Paget, "especially in such as are more than usually loose textured. It may be due to a local softening and liquefaction of part of the tumour, with effusion of fluid in the affected part; or to an accumulation of fluid in the interspaces of the intersecting bands; and these are the probable modes of formation of the roughly bounded cavities that may be found in uterine tumours. But in other cases, and especially in those in which the cysts are of smaller size, and have smooth and polished internal surfaces, it is more probable that their production depends upon a process of cyst-formation corresponding with that traced inthe cystic disease of the breast and other organs."

The question has been much debated, whether fibrous tumours can undergo a cancerous degeneration. In support of of the affirmative the authority of Dupuytren has been often

quoted. But I do not think that the passage in which the illustrious French surgeon alludes to this subject, fairly admits of the construction sought to be put on it. It is now generally admitted that such a degeneration never occurs; though the simultaneous existence of the two diseases in the same uterus is a remote possibility. The extensive pathological investigations of Cruveilhier, and the careful microscopical researches of Lebert, agree in establishing this law. Dr. Atlee is one of those who hold the opinion that the true fibrous tumour occasionally degenerates into cancer; and Dr. Ashwell strongly maintains that fibrous tumours are "cancerous productions," but of the five reasons which he gives in support of this view, and which he regards as conclusive upon the point, not a single one is entitled to any weight.

Professor Simpson takes a sort of modified view of this question. These fibrous tumours, he thinks, primarily and essentially, have nothing carcinomatous in their nature, nor any tendency to undergo the changes to which carcinomatous structures are liable. But he entertains no doubt that the texture of a chronic fibroid tumour may, like any other tissue, natural or morbid, become occasionally, though rarely, the seat of carcinomatous deposit. This, it appears to me, is virtually conceding the point contended for, and admitting the possibility of the cancerous degeneration of fibrous tumours. Professor Simpson further states that he has several times seen the uterine tissue with which a fibrous polypus was long in contact, become, in those predisposed to cancer, the seat of carcinomatous degeneration and ulceration, apparently from the constant irritation of the tumour, acting as a foreign body upon the contiguous uterine tissue. And he is of opinion that carcinoma of the cervix as well as of the body of the uterus is sometimes induced indirectly in this way, without the fibroid tumour or polypus itself degenerating into cancer.

It is not surprising that this disease should be thought capable of assuming a cancerous nature; as, in a few instances—exceptional ones no doubt—the tumour undergoes pathological changes, accompanied by symptoms, closely resembling those which constantly take place in the history of true cancer. That

is, to say, the tumour ulcerates, breaks down, and sloughs, coming away in a highly putrid semi-dissolved state; and contemporary with this, the patient exhibits a sallow wasted aspect, and has a degree of irritative fever constantly present, so that her condition altogether is very like one of cancerous cachexia, and might very easily be mistaken for it.

As regards the effect which a fibrous tumour may have on the aptitude for conception, we may safely lay it down, that where its presence does not cause hæmorrhage, or any considerable derangement of the ordinary functions of the womb, impregnation is quite a possible occurrence. But it is far better for the patient, I believe, that she should not conceive. Miscarriage is very likely to take place; or if she go to the latter months of gestation, the labor process may be seriously impeded, though this of course will depend on the size and situation of the tumour; and there is no small risk of excessive hæmorrhage following delivery, or peritonitis of a dangerous kind supervening at a later period. With such formidable contingencies before them, it certainly is fortunate that the fecundity of these women is very much checked by the disease of which they are the subjects. Fatal examples of each of the above events have fallen under my observation. The patient who died of flooding, had reached the full time, and went through her labor without any drawback, but excessive hæmorrhage ensued, and withstood every means used for controlling it, and she speedily sank. A fibrous tumour the size of an egg was imbedded in the anterior wall of the uterus, to the left side. This growth was interstitial.

That the presence of a fibrous tumour even of large size, does not necessarily hinder conception, interfere with gestation, or even lessen fecundity, is strikingly exemplified by the following history.

Case 1.—*Large interstitial fibroid; triple conception; death after delivery at full time.* A woman aged about 36, in her first pregnancy, was delivered of a putrid female child, at noon of 12th September, 1858, in a village six miles from Dublin. She had reached the ninth month of pregnancy. The death of the child was attributed to some injury the

mother had sustained, a fortnight before, when she fell on her belly. In forty-eight hours after this delivery she was conveyed to the Lying-in hospital on a cart. The abdomen was fully as large, as it ordinarily is, at the end of gestation. The remains of the funis were hanging from the vagina, and pretty strong pains were present. The os uteri was as large as a crown, and through the unbroken membranes were felt the foot and breech of a *second* fœtus. She seemed a good deal exhausted, but the tongue was moist, and the pulse 86. The lower part of the belly was very hard, and projected rather abruptly beyond the rest of the uterus. Upon inquiry, she told me, she had a tumour in this situation; which she had noticed two years ago, but that it had never given her any annoyance. A fœtal heart was feebly audible in the right iliac region, and very distinctly at the fundus uteri. On careful comparison, we found the rate of frequency different at the two places, so that, without hesitation, we diagnosed the presence of two living fœtuses in utero. The second child, also a female, was born alive soon afterwards. Some hæmorrhage followed, whereupon, Dr. B. G. Guinness (the assistant physician), ruptured the membranes of the third child, and brought down a leg, the breech having presented. It also was a girl, and was born alive. After its birth, a draining hæmorrhage went on for some time, so that it became necessary to extract the placentæ with the hand, which operation Dr. Guinness performed with much ease. No hæmorrhage to any amount followed: nevertheless, she got weaker and weaker, and in three hours, despite of all we could do, she expired, the pulse continuing perceptible at the wrist, up to the very last. The prolonged delay between the first and second births; the hæmorrhage; the operations; and the shock, all combined to cause fatal prostration of the vital powers.

Imbedded in the anterior wall of the uterus, was a large fibrous tumour, about seven inches long, and two and a-half inches in thickness. This preparation is preserved in the museum of the Lying-in hospital.

A very convenient division of these tumours, and one pos-

sessed of some practical utility, is that based on the situation which they occupy in the wall of the uterus, and relatively to its component structures. This classification obviously admits of a three-fold division; viz:—*submucous*, *interstitial* or *intra-mural*, and *sub-peritoneal* fibrous tumours. It not unfrequently happens, that in the same case, we may meet with examples of each of these forms.

Those of the first kind—the *submucous* fibroids—are primarily developed in the substance of the uterine wall, somewhere near its internal surface. They project towards the side where there is least resistance; and, increasing by little and little, they at length protrude into the cavity of the womb, covered by its lining membrane and a layer of its proper tissue. Their presence here seldom fails to excite some degree of action in the muscles of the organ. The tendency of this is always towards the mouth of the womb; so that whilst the plane of fibres behind (or underneath) the tumour have the effect of pushing it forward by their contraction, the effect of the general contraction is to push it downwards. Under these agencies, the tumour is more and more removed from its original bed, till it only remains connected by a neck or stalk. It has now assumed a truly pediculated form and become a polypus. The thickness of the pedicle depends in a great measure, upon the number of uterine fibres which the tumour has carried before it; but the pedicle itself is always single. That this is the way in which fibrous uterine polypi are formed, no longer admits of doubt. I shall say no more about them here, having devoted one memoir to the subject of uterine polypi.

Submucous fibroids may become developed in any part of the interior of the uterus. They show, perhaps, some partiality for the fundus or parts immediately contiguous. When so situated, they may lead to the partial, or complete inversion of the organ: but this rarely, if ever, takes place until the tumour has become more or less pedunculated. In the memoir upon inversion of the womb, will be found some further observations upon this complication of fibrous tumour, together with the history of an illustrative case.

The *interstitial or intra-mural* fibrous tumours may have their seat in any part of the uterus,—the posterior wall, the anterior wall, the sides or fundus. As the tumour increases in size, the cavity of the organ becomes proportionately lengthened, and the muscular structure softened and hypertrophied, exactly as takes place during pregnancy. It is remarkable that this development does not bear a constant relation to the bulk of the growth. A greatly enlarged uterus may contain only one or two small tumours; but sometimes we may find that there has been no augmented development of the proper uterine structures. Some of the largest uterine fibroids belong to this interstitial variety the reason being that the tumour is placed in a rich soil, and is furnished on every side with an abundant vascular supply.

Sub-peritoneal fibrous tumours, are generally met with at the uterine fundus, projecting from its anterior or posterior surface. A single one may be present, or they may be so numerous as to distort the shape of the uterus. In size they may vary from a pea to a cocoa-nut. They may be found sessile, merely forming rounded eminences on the peritoneal surface of the womb; or they may be completely pedunculated. In the latter case, the pedicle, which maintains the connexion between the tumour and uterus, is composed of serous membrane and some muscular fibres. Its thickness and length vary considerably, though the former constantly tends to diminish, and the latter to increase. The tumour has now, in point of fact, become a polypus, pendent from the exterior of the uterus, and in the abdominal cavity. The pedicle may attain a great length. Cruveilhier mentions an instance, where it was so long, that the tumour lay in the right hypochondrium, and was mistaken for the liver.

Of the three varieties of uterine fibroids, the sub-peritoneal are perhaps the most numerous. When pediculated, they manifest a great disposition to take on the calcareous degeneration. "This degeneration has no necessary connexion with the size of the tumour, and is not commensurate with its growth; but it appears to be in intimate relation to the size of the peduncle, and to the changes which take place, by oblitera-

tion or atrophy, of the vessels which pass from the substance of the uterus through the peduncle to the tumour." (Turner).

There are other changes of a very singular description, which may befal these pediculated sub-peritoneal fibroids. Where the pedicle has become very delicate, it may chance to be broken, by some sudden movement of the body, and the tumour in consequence is at once detached from the uterus, and set free. In one sense, it is now to be regarded as a foreign body, lying within the peritoneal sac, and thus being exactly analogous to the loose cartilaginous bodies occasionally met with in the synovial sac of the knee-joint. It is highly interesting to inquire what effect is produced on the tumour, and the contiguous structures, by this dissolution of the connexion subsisting between it and the uterus. It would appear from the recorded cases of this occurrence, that the presence of a loose fibroid in the belly is perfectly innocuous; no irritation whatever had been excited in the adjacent viscera, or the serous membrane. The tumour itself,—and this is still more remarkable,—had undergone no change, but presented the same appearance as these tumours are wont to do, when still in organic union with the womb. This accords exactly with the history of loose cartilages in the joints. Small bodies developed in the sub-serous cellular tissue, are sometimes protruded into the abdominal cavity, and finally detached. These are distinguishable from the loose bodies of uterine origin, by the absence of organic muscular fibres in their structure.

We have not yet done with the pediculated variety of sub-peritoneal fibroids. The tumour, as we have seen, may become not only separated from the uterus, but literally transplanted to some other organ or part, with which it maintains organic relations. Dr. Turner, of Edinburgh, has very carefully investigated the causes of this phenomenon, and given what seems a most satisfactory explanation of the way it is brought about. I cannot do better than quote his own words: "Should a sub-peritoneal tumour be attacked by inflammation of its peritoneal investment, and contract adhesions to surrounding parts, it is then placed in a position

favourable to become separated from the uterus. This would be especially liable to occur, if it became connected to a viscus, such as the bladder or rectum, which is constantly undergoing changes both in size and position. The alternate dilatations and contractions of these viscera, would necessarily exercise a considerable traction upon the tumour, which would tend to produce elongation of the pedicle, and ultimately, should the cause be sufficiently long in operation, complete detachment from the uterus. Even if the tumour were to connect itself to a fixed part, as the os pubis, or other portion of the pelvic wall, and the uterus subsequently to become pregnant, the growing uterus gradually rising into the abdomen, might exercise such an amount of traction upon the pedicle, as to attenuate it, even to complete separation.

The entanglement of the tumour between the coils of small intestine, which so frequently hang down into the pelvic cavity, even although no distinct attachments took place between them, would, during the peristaltic movements of the gut, exercise a certain amount of dragging upon it, especially if at the same time, its pedicle become twisted."

Dr. MacSwiney exhibited to the Dublin Obstetrical Society last session, a specimen which very well illustrated some of the above remarks. The woman stated she had always enjoyed unbroken good health, until seized with the illness of which she died; viz., acute nephritis. At the *post mortem* examination a tumour was found growing by a rather narrow and very short pedicle from the fundus of the womb. "The tumour, situated as above described, was about two and a-half inches long, one and a-half inch broad, and one inch thick. It was nodulated, and of a whitish brown colour. It felt hard, and weighed heavy. Upon making a section into its interior, the edge of the scalpel was turned upon a considerable amount of hard substance with which it came in contact, and which was very difficult to divide. In fact, ossific degeneration had proceeded to a considerable extent in the structure within the tumour." The uterus was of the normal size of the virgin organ and healthy.

There is no one symptom or combination of *symptoms* properly so called, which will enable us to diagnose the existence of a fibrous tumour of the womb. But by taking the symptoms in connexion with the results of physical examination, we are able in a very large proportion of cases, to determine the presence of the growth after it has attained a moderate size. No doubt most uterine fibroids give rise to symptoms varying in number and severity. But they are not pathognomonic symptoms; they are common to many diseases, functional and organic, of the womb and its appendages.

As a general rule, the sub-peritoneal and interstitial fibroids, produce fewer rational symptoms, and occasion less disturbance of the physiological functions of the womb, than do the sub-mucous fibroids; but the sensible signs of their presence are more numerous and more marked. In the early stages of growth, symptoms of any kind are often absent, or if present, are very obscure. It is not very uncommon to meet with cases where the tumour has developed itself, and attained such a bulk as to be perceptible through the abdominal walls, without the patient having experienced any decided indications of uterine disorder.

The age of the patient, as well as her social state, exercise some influence on the character of the symptoms. After the menstruating period of life is over, a fibrous tumour will, *cæteris paribus*, excite less functional derangement, and be productive of less inconvenience: its rate of growth, too, will be slower. In like manner, whilst a patient remains single, little annoyance may be experienced from it, but should she marry, the state of things will probably be much altered, and a train of disagreeable effects produced, consequent upon the excitement and disturbance to which the parts are now subjected.

Among the direct symptoms which attend upon this disease, are *pain*, *menstrual disorder*, *hæmorrhage*, and *watery* or *mucous discharges* from the vagina. In addition to these are certain other symptoms, resulting chiefly from mechanical pressure, such as *cramps*, *dysuria*, *difficult defœcation*, *prolapsus*, *piles*, *œdema of the leg*, *&c.*

Let me now review these two catagories of symptoms, and offer a few remarks upon each. It will be remembered that uterine polypi are not to be included in the following observations.

Pain, independently of menstruation, is quite an accidental occurrence in the course of the disease, and present in exceptional cases only. Patients often complain of a dull vague sort of uneasiness in the lumbar or pelvic region, but this seldom amounts to actual pain, though it may be a source of continual discomfort. In the advanced stages of submucous fibrous tumours, sharp uterine pains, compared to cramps or spasms, are often experienced, and would seem to have their origin in unusually active contractions of the uterus, in fact, to be efforts at expulsion. Once or twice where I had an opportunity of seeing a patient during the presence of these pains, the uterine tumour was decidedly harder than ordinary, and less tolerant of pressure,—characters that always accompany uterine contraction. If any inflammatory action should be developed in the peritoneum, uterus or adjacent parts, pain will be an attending symptom of this attack, and be commensurate with its acuteness. Such an occurrence as pelvic inflammation or pelvic abscess should not be unlooked for in patients who are the subjects of fibrous tumours in the womb. (See memoir on pelvic inflammation and abscess in the non-puerperal state.)

In many of the cases which have fallen under my observation, distressing uterine and lumbar pains were experienced at each menstrual period, accompanied with exalted sensibility of the uterus. This pain was often intermitting, or remitting, in its attacks, and was generally relieved or entirely removed when the catamenial flow was fully established. Doubtless the seat of this pain is the uterus and not the morbid growth, as in all the cases where I have had an opportunity of testing the sensibility of the latter it has seemed wholly devoid of sensation.

Disordered menstruation is commonly present at some period of the disease in all cases, and at nearly every period of the submucous variety. There is good reason to think,

that in many instances, painful and difficult menstruation is the first, and for a long time, the only symptom resulting from the presence of a uterine fibroid. But it is certainly very common to meet with menorrhagia, among the cases in which the tumour is recognizable. This holds good, generally, in the case of submucous fibroids; and is almost universally true of these when they have become pediculated.

I have never met with *amenorrhœa* in a patient with fibroid of the uterus who had not passed the menstruating era of life. Dr. West has carefully investigated the relation between this disease and the function of menstruation; and his results, which coincide with those of my own experience, are thus summed up: "It appears then that in eighteen out of thirty-six cases in which menstruation had not ceased, it was either excessive in quantity, or over frequent in recurrence, or both; while in eleven instances, the function was performed with excessive pain; and only in one instance did the quantity of blood lost at the period fall below that to which the patient was accustomed when in health."

Hæmorrhage between the menstrual periods,—which hæmorrhage, for perspicuity sake, should be spoken of under the name of metrorrhagia—presents itself in a large proportion of cases—is often profuse, and sometimes menaces the life of the patient. It is frequently but a sequel of menorrhagia, the one running into the other. Hæmorrhage is one of the chief sources of danger from fibrous tumours of the uterus. I have known life to be destroyed by it; and have frequently seen patients thoroughly anæmiated from its long continuance, without one other symptom of uterine disease being present.

Case 2.—*Sub-mucous fibroid; enormous hæmorrhages.* Mrs. ——, aged 43, had seven children, the youngest being ten years old at the time this refers to. For nearly five years she had menorrhagia and metrorrhagia; latterly, there were only a few days in each month that she was free of red discharge. I was brought down to the country to see this lady along with Dr. Huston of Carlow. She was blanched to a dead white; the pulse was generally over 100, and

accelerated by the slightest emotion or bodily effort; and any attempt at the latter brought on distressing dyspnœa. The uterus was smooth, hard, and globular, and enlarged so as nearly to reach the navel; yet she herself was wholly unconscious of the existence of this tumour; and, excepting the hæmorrhage, had never experienced any symptom or distress referable to uterine disease, so that she could not be persuaded such was present. The os uteri was closed, but through its substance I could feel the hard tumour. On two occasions the hæmorrhage was so enormous, and the prostration so great, that it was thought impossible she could rally. Five years previously this lady had been under the care of Dr. Bennett, in London, who then discovered and announced to her friends the existence of a fibrous tumour in the womb.

Of twenty-five cases whose histories are now beside me, fourteen had metrorrhagia to a greater or less extent: and in twenty, out of Dr. West's forty cases, there was more or less sanguineous discharge in the intervals of menstruation. I think there is little room to doubt that metrorrhagia is more constantly present, and much more severe, in the cases of sub-mucous fibrous tumours, than in either the sub-peritoneal or interstitial varieties. Of the eleven cases, in my collection, where it was absent, there were five in which the tumour was positively ascertained to be sub-peritoneal or interstitial. In Case 1, already detailed, hæmorrhage had never occurred till after delivery, and yet the tumour was a very large one, but strictly interstitial. The cause of these differences appears, in the present state of our knowledge, to be almost inexplicable.

The size of the tumour would seem to have less to do with the production of the hæmorrhage, than has its position. I lately had a patient under my care, an unmarried woman aged 34, whose uterus was enlarged to the size it should be in the seventh month of pregnancy. The sound passed up into its interior seven inches, without encountering the slightest hitch or obstruction. Dr. Churchill saw this case with me more than once, and agreed in thinking

the tumour was imbedded in the anterior wall. This patient never had metrorrhagia or menorrhagia, except on one occasion following a free exploratory examination with the sound. There is a good deal of uncertainty about the occurrence of this symptom. A patient will be free from it for a considerable period of the disease; then it will come on without any assignable cause; or the hæmorrhages having for a long time been very moderate, suddenly and unaccountably become profuse or dangerous.

Case 3.—*Sub-peritoneal and interstitial fibroids; death.* M. F. aged 34, supposing herself to be six months pregnant was admitted to the Lying-in hospital with uterine hæmorrhage. She was twelve years married, and had two early abortions the first year. She menstruated regularly up to six months before admission, when the cessation of the catamenia, succeeded by morning sickness and mammary enlargement, &c. led her to believe she was with child. These symptoms continued up to the time for quickening, when some loss of blood occurred, and they disappeared, though the enlargement of the uterus remained, and has progressed. Her health, not very good for some years back, now began to give way. For several days before she came to the hospital, a considerable hæmorrhagic discharge had been present: but this ceased soon after her admission, and did not recur during the interval between this and the time of her death. The abdomen was as large as a seven months' pregnancy; but the uterine tumour felt harder and more irregular than a gravid uterus. It was moveable and there was no sound to be heard in any part of it. She had a lemon-coloured cachectic aspect, and was exceedingly weak. She died in a few days after her admission to the hospital.

Several fibrous tumours were found embedded in the uterus, and underneath the peritoneum. In the substance of the anterior wall was one of very great size, but much less dense and compact in its structure than the others. The left ovary contained a large transparent cyst which held a pint of clear aqueous fluid, slightly albuminous, and having a specific gravity of 1·006.

Metrorrhagia is more commonly a late than an early symptom of fibrous tumour of the uterus: and once it has come on, it is apt not only to continue but to increase. Its semeiological value in relation to the disease is very small if taken alone; but when viewed in conjunction with the other symptoms, of a negative as well as positive kind, it oftentimes constitutes a very important element in the data on which our diagnosis is to be grounded. For example, the occurrence of severe metrorrhagia, independantly of pregnancy or of cancer, affords a strong presumption of the existence of some fibrous growth in the uterus. If at the same time the organ be enlarged, this presumption becomes a very high probability. Hæmorrhage is often the first symptom that makes the patient think she may have some disease of the sexual system, or that prompts her to seek advice, which leads to the discovery of the tumour. Occasionally this symptom assists in distinguishing between ovarian and uterine tumours; hæmorrhage being a very rare accompaniment of the former, but a frequent attendant upon the latter.

The reason for this frequency of hæmorrhage in connexion with fibrous tumours of the womb has never been clearly and satisfactorily accounted for. A great many ingenious theories and conjectures have been put forward by different authors, and I shall not add to their number by proposing another. That the hæmorrhage must depend, however, upon some peculiarity belonging to the uterus itself, is at once proved by the fact that hæmorrhage is not a symptom of fibrous tumour in any other part of the body. That it does not always, or altogether, proceed from the surface of the tumour, abundant observation has shown; whilst experience teaches us, that the nearer the tumour is to protruding into the uterine cavity, the greater is the liability to the occurrence of hæmorrhage. I shall have occasion to revert to this point again when speaking of the palliative surgical treatment.

Watery, or mucous discharge, from the vagina, during the intervals of menstruation and hæmorrhage, attends upon nearly every uterine or vaginal disease, as well as being often

itself the sole disease; so that this symptom affords really no information whatever. In the early stages of fibrous tumour, the general character of the discharge, when present is of the kind properly called *mucous;* whilst in the advanced stage it has more of a watery consistence, though sometimes it is yellowish as if from the admixture of pus. In the cases of sub-peritoneal or interstitial fibroids, there may be no discharge whatever.

It is usually supposed that in the disease we are considering, the discharges are devoid of fœtor; but I have seen grave errors of diagnosis committed from too implicit reliance being placed on this sign. It is true, as a general rule, that the discharge is inodorous, or, at least, has not an offensive smell; but, at times, from the retention and putrefaction of blood, it may become highly fœtid. In cancer, on the contrary, the discharge is always fœtid; and this fœtor has a peculiarity which distinguishes it from all the other bad smells that are encountered in our attendance upon the sick.

There are a number of *passive symptoms* which occasionally attend upon large uterine fibroids, and are identical with those commonly present at the advanced periods of pregnancy. They result, in both classes of cases, from the same cause, namely, mechanical pressure upon some of the abdominal viscera or parts contained within the pelvis. These symptoms are *muscular cramps*, or a *sense of numbness* in the legs or thighs; *hæmorrhoids; œdema* of one or both legs; *frequent calls to make water*, or *difficulty in voiding it; frequent calls to go to stool*, or *difficulty in defœcation; prolapsus of the uterus*, &c.

The production of these symptoms depends mainly upon the size of the tumour. If it be small none of them occurs; if it be large, but above the brim of the pelvis, a like immunity is enjoyed. The part of the uterus that the tumour grows from may also determine the production of one or more of them. Having continued for a variable period they may suddenly cease, and then we find the tumour to have ascended above the brim, whereby the injurious pressure is at once taken off. It is only in exceptional cases that the uterus remains con-

fined in the pelvis with its increasing size; but when it does happen the above group of symptoms gradually becomes developed. By its continued enlargement very unpleasant or dangerous effects may be induced. Dr. Lever narrates a case of this kind "where the obstruction had been so great, that the bladder, ureters, and pelvis of the kidneys were enormously distended, whilst the bowels were loaded with masses of hard fœculent matter." I have seen the pelvic cavity so thoroughly filled by a uterine fibroid, that the smallest sized catheter could not pass into the bladder without meeting some resistance, and the rectum was literally flattened against the sacrum: indeed it seemed extraordinary how the functions of these organs were carried on. This state of things had been very slowly brought about. Such cases furnish striking proof of nature's wonderful powers of accommodation, where time is afforded her and the impediment to her operations is slow in developing itself.

Prolapse of the womb is more apt to occur, I believe, before the tumour has attained any considerable bulk, and whilst the volume of the uterus is no obstacle to its descent. In two instances of this kind, the displacement of the uterus amounted to procidentia, the uterus being completely beyond the vulva. In one of these the fibroid was sub-peritoneal, and sprang from the posterior part of the fundus uteri. In the other case it was also sub-peritoneal and attached to the anterior part of the body of the organ. In both, the tumour could be readily distinguished through the vaginal walls when the womb was procident. In another case there was partial procidentia, the tumour being interstitial and associated with very great hypertrophy of the uterus. The subject was a young unmarried mulatto. The other displacements, retroversion and anteversion, are very likely to take place, should the tumour happen to have a posterior or anterior attachment to the fundus.

If the tumour, whether intra-mural or sub-peritoneal, develop itself at one side of the uterus, and continue enlarging in the same lateral direction, we may expect that the uterus will be dragged towards that side, or pushed towards the

opposite; and, perhaps, have its body very much elongated and distorted. The occasional occurrence of inversion, as a result of fibrous tumour growing from the upper and interior part of the womb, has been already alluded to, and is fully discussed elsewhere.

It may safely be affirmed, that to recognize the presence of an uncomplicated fibrous tumour, which has attained even a moderate bulk, requires no particular tact or cleverness under ordinary circumstances. But to discover the existence of a uterine fibroid, when still in an early stage of growth, or to discriminate between it and other pelvic tumours, will sometimes tax the utmost skill and judgment of the most practised gynæcologist. Highly though we estimate physical signs, and great as is their value in helping us to diagnose tumours in the uterus, yet in this, as in all other classes of cases, they should never be dissociated from the symptoms; and in no case should our opinion be formed on either alone. "It must be obvious," says Dr. Stokes, in his *Treatise on Diseases of the Chest*, "that in the detection of the nature and seat of any disease, the more we can combine the observation of physical signs with functional symptoms, the greater will be the accuracy of our diagnosis." "It is true," he elsewhere observes, "that the mere observation of certain physical signs may, under particular circumstances, lead us to conclusions probably correct, but the object of medicine is certainty."

The only *auscultatory* sign, that I know of connected with a uterine fibroid, is a *bruit de soufflet* in some part of the enlarged uterus, and always synchronous with the pulse. This sound is not to be heard in all cases, though I cannot say exactly in what proportion of cases it does exist. But I have met with it in several of the cases where it was specially sought for, so that I am disposed to think it is not unfrequently present. Sometimes it is short and abrupt, a mere whiff accompanying each arterial pulsation. At other times it is prolonged and musical, and not to be distinguished by the most acute and practised ear from the *bruit placentaire*. Not only may it simulate this in the character of its sound, but also in its rhythm—occasionally being loud and intense

for some pulsations, and then becoming feeble or inaudible. I have, too, observed that it may possess another character that belongs to the placental murmur, viz., it can be diminished or suppressed by moderate pressure of the stethoscope over the spot where the sound is heard, leading us to suppose that it was produced somewhere near the surface of the tumour. This last character is not always observable; but even so, it is sufficient to disprove the assertion, that the production of this sign is solely due to pressure on the iliac artery by the tumour or enlarged uterus. Indeed, the character of the sound itself would often be enough to throw doubt on this hypothesis. I can offer no opinion as to the causation of this sign, or the particular combination of circumstances under which it is developed. It was present in those who had sustained no loss of blood, as well as in the anæmic. All the cases where I have met with it were, to the best of my judgment, examples of interstitial or submucous non-pediculated fibroids. Although a very interesting phenomenon it is not one of any special diagnostic value, being common to pregnancy and ovarian disease, which are the two conditions most likely to be mistaken for fibrous tumour of the uterus.

Ocular examination of the os uteri, in cases of fibrous tumour of the uterus, does not reveal any characteristic or peculiar appearance. There is not, in point of fact, any alteration induced here by the disease, except such as results from simple mechanical displacement. But these negative characters, if I may so speak, are often of value in the differential diagnosis of fibrous tumour and pregnancy.

Digital examination, *per vaginam*, will almost always enable us to discover any considerable enlargement of the body of the uterus; and by combining palpation with internal exploration, we may ascertain the identity of the suprapubic tumour with the uterus. Increased weight, or diminished mobility, is sometimes appreciable to the finger, when augmentation of volume is not. Here the use of the sound might aid us by showing an increased length of the uterine cavity, and this would strongly corroborate any symptoms

that might exist of fibrous tumour. Without any enlargement of the uterus, we may yet feel a tumour in front or behind. The uterine sound again comes to our assistance, helping us to make out whether this tumour is merely the displaced (that is, the retroverted or anteverted) fundus, or a morbid growth. If the tumour remains while the axis of the uterus holds its normal direction, the existence of a tumour is thereby demonstrated. This result from the use of the sound might be anticipated from digital examination, if the os uteri had been found in its usual central position with regard to the vagina. For in retroversion, or anteversion of the body of the uterus, the os is thrown, respectively, forwards, towards the symphisis pubis, or backwards. But we may have version of the uterus with a tumour growing at the same time; and the disappearance of the tumour may coincide with the reposition of the uterus. The weight of the organ, and the length of its cavity, will here, perhaps, throw some light upon the nature of the case. The shape of the os uteri may be much altered by the presence of a fibroid in the anterior or posterior wall of the cervix, throwing it into a crescentic shape, the concavity being occupied by the tumour. I do not believe that the tumour is ever primarily developed in the tissue of the cervix, but it merely extends in this direction from the body of the womb. When so circumstanced, should it attain a large size, it may bulge below the level of the uterine lip, and cause great distortion of this part and of the cervical canal.

When the tumour is submucous and has occasioned much enlargement of the womb, the cervix becomes shortened; and may open to such an extent as to permit the entrance of the finger, and contact with the growth.

With a finger in the rectum, and the sound passed into the uterus, it is possible sometimes to detect a fibroid growing in the posterior wall of the uterus. This mode of exploration, Dr. Rigby says, "will readily detect any increase of thickness or firmness of this part;" a statement that requires some qualification, and supposes, at all events, the examiner to be practised in this particular mode of exploring, and to have a pretty long index finger. Digital examination, *per rectum*,

always shows the fibroid (when within reach) to lie in front of the gut, and this mark serves to distinguish it from any of the tumours (exostosis for instance), that occasionally grow from the sacrum or sacro-iliac articulation.

Any considerable enlargement of the uterus generally, renders its fundus perceptible above the pubes, so that when a tumour is discerned in this region we may be pretty certain it is either ovarian or uterine; and, if the latter, that it depends upon pregnancy or a fibrous tumour. In the first instance, then, it is always of essential importance to settle the question of pregnancy; for, by eliminating this from the case, not only is our field of inquiry narrowed, but we are more at liberty to make our physical explorations. In every case where pregnancy is, physiologically, a *possible* thing, we should, before doing anything else, satisfy ourselves by the proper course of procedure conducted with befitting caution, that it does not exist. Whilst a doubt remains on this point, our researches must be limited, as we are altogether prohibited from the use of the sound.

Having, then, on valid and sufficient grounds, excluded pregnancy from the list of possibilities, the diagnosis will, in ninety-nine out of every hundred cases, lie between ovarian disease and uterine fibroid. I do not here speak of all the diagnostic marks by which we may distinguish between these two diseases, but simply confine myself to the positive characters which belong to the latter. The fibroid tumour is generally very hard, smooth, and globular, or composed of rounded eminences. Its rate of growth is extremely slow. The uterine sound will here render us essential service; indeed, by means of it alone we can generally set the question of diagnosis at rest.

With an ovarian tumour, the ulnar edge of the hand can be passed deeply in between the pubes and the tumour. But where the tumour is uterine, we find that the hand is resisted and cannot be sunk to anything like the same depth. In the latter case, too, the tumour commonly occupies a more central position. It is not at all unusual, however, to find these two diseases co-existing in the same patient. Case 3 furnishes

an illustration of this; and other instances have come before me. Sir Charles M. Clarke's experience was similar. He writes: "In many cases of this malady, the appendages of the uterus are also found diseased; and, it is by no means uncommon, to find dropsical tumours of the ovaria, or of the broad ligaments, existing at the same time." And in a foot-note he adds, "The author has several preparations showing the co-existence of fleshy tubercle with dropsy of the ovary."

Before proceeding to discuss the treatment of fibrous tumours of the uterus, a few words as to the course and termination of these growths when left to nature, or not directly interfered with, may not be out of place here. It seems a thing not impossible for tumours having, apparently, all the characters of the kind we have been considering, to be removed by a process of atrophy or absorption. Their hard compact structure should lead us to suppose, however, that such must be a very unusual result. No example has come under my own observation; but Sir Charles Mansfield Clarke and Dr. Rigby have recorded cases where absorption of the tumour took place. Clarke writes: "The case which follows proves, beyond a doubt, that the tumour, designated fleshy tubercle, may be absorbed naturally; and, if so, it is by no means improbable that the curative process may be forwarded by a recourse to those measures with which art is furnished. A lady had laboured for some time under a very profuse discharge of blood from the vagina. Upon an examination, a tumour consisting of several irregular portions was found descending into the vagina from the cavity of the uterus. A large tumour, as big as a child's head, could be felt through the parieties of the abdomen, just above the pubes. Upon the surface of this tumour could be felt two smaller projections, one of which was the size of a man's fist, and the other twice this size. A variety of means were employed for the relief of this case for about two years: upon examining the abdomen at the end of this period, the tumours could not be discovered. At length the patient, worn out by pain and discharge, died. Her body was examined in the presence of Sir Walter Farquhar, Mr. Chilver, and Dr. Clarke. The

uterus was found as large as that of a woman at the end of the fifth month of pregnancy. Upon the anterior part of it, near the fundus, were found two small tumours as large as peas, which were probably the same tumours before felt of the size above mentioned, as there was no other vestige of them. These tumours were of a hard resisting nature, and were lying between the muscular part of the uterus and the peritoneal covering of it." Dr. Rigby has also related a case which may, perhaps, be quoted here, although the patient had been subjected to some medical treatment. She was a patient at St. Bartholomew's Hospital, London, and "two large masses, having all the characters of fibrous tumour, could be felt through the abdominal parieties, the one immediately behind and above the symphysis pubis, and evidently rising from, or seated in, the uterus; the other above it, and extending nearly, or up to, the umbilicus. She was suffering severely from an attack of pelvic inflammation, with great excitement of the circulation. Six leeches were applied, *per vaginam*, to the most painful spot, and a profuse hæmorrhage followed, which could not be stopped until she had lost a large quantity of blood: the flushed face had become pale, the hard throbbing pulse soft and feeble. In a week the lower tumour had evidently become softer and smaller, and in the course of a month could be no longer felt. The other one had also undergone similar changes, but in less degree; and, in about six or eight weeks more, disappeared also."

The separation and complete detachment of the tumour from the uterus (as may happen to pediculated sub-peritoneal and submucous fibrous tumours), or its calcareous transformation, are events which do occasionally take place, though, it is to be feared, in a very small proportion of instances. As I have already alluded to these events, it is unnecessary to do more than to mention them in this place.

When the tumour is enclosed between the mucous membrane and muscular structure of the uterus, it is liable to undergo a slow process of softening and disintegration, whereby it is partly dissolved, and partly broken up. Consequent

upon these structural changes it begins to come away in detached fragments, or in a semifluid state resembling putrilage. In this way a cure may be effected—the whole tumour being discharged bit by bit *per vaginam*. It is possible for it, I believe, to pass off by the rectum, and the patient to recover. One case I saw, where the tumour melted down, formed an abscess communicating with the rectum, and was eventually discharged *per anum*. The uterine tumour, which had been high in the hypogastrium, completely disappeared; but a succession of troublesome abscesses ensued, which reduced the woman to the lowest degree, so that she at length sank. She had been under treatment for the fibroid for two or three years. It was in the posterior wall of the uterus.

There is some difference of opinion among pathologists as to the exact nature of this process. It bears a close similarity to sloughing, the result of destructive inflammation, and as such it is regarded by Professor Simpson, and other high authorities. Dr. Charles West, however, entertains a contrary opinion, and thinks it should not be looked upon as inflammation. "This process" he observes, "seems to be one of death of the tumour; but the mode in which it is brought about is not by any means clearly understood. It is not a process of inflammation, nor one of its ordinary results. The fibrous tumour, when attacked by inflammation, presents a vivid rose red colour, and shows a greatly increased vascularity; while local pain and the general signs of inflammation attend the process during the patient's life. The disintegration of the tumour, on the contrary, takes place unattended by symptoms which could lead to a suspicion of what is going on; and the out-growth becomes soft, and breaks down into a dirty putrilage."

The action of the uterus and the compression by the child, during parturition, have been known on some few occasions to have destroyed the vitality of the tumour, and led to its expulsion, entire, or broken up in the manner last described. This can only occur, or at all events is most likely to occur, where the growth is situated in the os uteri, or low down in

the body or cervix of the organ. Some years ago, Dr. C. Johnson showed me a large fibrous tumour whose expulsion had been an effect of parturition. The lady recovered.

These tumours sometimes remain altogether stationary; or they may go on growing for years and years, but their augmentation in size is so extremely gradual as to be scarcely noticed by the patient. All this while they undergo no change of structure, and they cause no symptoms, nor disturbance of any physiological function. Their presence seems to be perfectly innocuous; is productive of no annoyance, and does not tend to the shortening of life, in any direct way.

Such then are the favourable issues, positive and negative, of this disease. They are as follows, viz.

1. Atrophy or absorption.
2. Spontaneous detachment from the uterus.
3. Calcareous transformation.
4. Sloughing and disintegration.
5. Arrest of growth.
6. Slow passive growth, unattended by symptoms.

Now let us turn to the other side of the picture, and see how these tumours may involve the safety of the patient, or directly destroy her life. One way in which this event may be brought about is by hæmorrhage. And yet, frequent and profuse though the hæmorrhages be, resulting from this disease, it very seldom happens, I believe, that hæmorrhage proves the immediate cause of death. I have never yet actually seen an instance of the disease terminating in this way; though three years ago I had a case in hospital, which ended fatally by hæmorrhage some months afterwards, when the woman was staying in a remote part of the country. No other instance of a like kind has come within my knowledge. Of forty cases of fibrous tumours of the uterus mentioned by Dr. Charles West, only one died of hæmorrhage; and the fatal event occurred nine years after the appearance of the first symptom of the disease. As art can do much towards averting such a termination, the small number of fatalities from this cause in the practice of medical men is not surprising. But though the hæmorrhage may not kill her, it

nevertheless exerts a very prejudicial influence upon the patient's health, and leaves her an easy prey to any intercurrent, or secondary disease.

As the result of these oft-recurring hæmorrhages, with abundant sero-mucous, or muco-purulent discharge in the intervals, it is not uncommon for the patient to fall into a state of cachexy, accompanied by general debility and gradual failure of the vital energies. The constitution becomes completely broken up, and the patient at no distant period sinks into the grave. Case 3 may serve as a good illustration of this fatal termination of the fibroid disease of the uterus.

From my own experience I should say that the most fruitful source of danger connected with uterine fibroid, is peritoneal or pelvic inflammation. In the memoir upon "Pelvic Inflammation and Abscess in the Non-puerperal State," I have treated at some length upon this sequela of the disease now under consideration; so that it is unnecessary at present to enter into any details. Peritoneal inflammation may arise without there being any obvious or particular cause to account for it. Or it may be excited by the bursting of some secondary abscess, which had formed in the subserous cellular tissue of the broad ligament or of the pelvis. Or the fatal attack of inflammation may be induced by the giving way of the serous membrane over a fibrous tumour which has undergone the process of softening. Instances have come before me of both these terminations. Where the inflammation of the peritoneum is brought on by the extravasation of matter into its cavity, death quickly ensues in a large proportion of cases. To sum up then,—fibrous tumours of the uterus may lead to a fatal issue in consequence of

1. Peritonitis.
2. Exhaustion; or
3. Hæmorrhage;

These, of course, are not the only modes in which life may be compromised; but I believe that they will include by far the greater number of cases, and that they constitute the principal dangers,—independently of pregnancy or childbirth—incident to this disease.

The *treatment* of this complaint may conveniently be considered under two heads, viz. medical and surgical. When a case comes into our hands it is desirable in the first instance, and before adopting special treatment, to remove any local inflammatory action that may be present, by rest, leeching, &c. The state of the secretions should also be carefully looked into and regulated. A few doses of blue pill, or Plummer's pill, by relieving the portal system and acting as an alterative, form a very good introduction to the special treatment.

Many practitioners regard uterine fibroid as a disease which does not admit of cure, and they are, therefore, content with prescribing merely palliative remedies. The evidence, however, of these tumours being occasionally removed by the action of medicinal agents is now too strong to admit of contradiction. If no urgent symptom be present calling for immediate attention, it is our plain duty to attempt the cure of the tumour, or the arrest of its growth. Happily the measures to be employed for the former of these objects are quite compatible with the attainment of the latter. It should of course be fully explained to the patient how remote the chance of cure is; and also that before any sensible beneficial effects can result from the treatment, it must be steadily persisted in for a great length of time.

The iodine treatment though much lauded by Ashwell, has not gained ground in the estimation of the Profession. Dr. Ashwell himself seemed to have modified the views he first promulgated on this subject in 1835. For, in the second edition of his *Practical Treatise on the Diseases peculiar to Women*, published in 1846, all the advantage he claims for the use of iodine in the disease, is that it will probably prevent the enlargement of the tumour, restraining it within its present limits and improving the general health. He relates some cases illustrating this beneficial action of the mineral. The iodine was given internally, and rubbed over the abdomen and to the os uteri, in ointment. Its administration was persisted in for many months, and was conjoined with other treatment (leeching, &c.) as occasion seemed to require. It is important to bear in mind that to derive any benefit

from the use of the remedy, it is necessary to continue it for a length of time. The hydriodate of potash I have repeatedly and perseveringly tried, but have nothing satisfactory to report from its use. The bromide of potassium, however, is spoken of in very favourable terms by Drs. Simpson and Rigby. It has this great advantage over the iodide of potassium that its employment may be continued for a much longer time without any disagreeable effects ensuing. In most constitutions the bromide seems to act as a tonic, as well as a deobstruent, and this much enhances its value. The dose is from two to three grains three times in the day. My own experience of this remedy in these cases is too limited to justify my offering any opinion of its value, though I can confirm the statement of its beneficial influence on the system at large.

Within the last few years the mineral waters of Kreuznach have obtained considerable repute for their supposed efficacy in reducing uterine fibroids, as well as other abdominal tumours. Kreuznach is a town of Rhenish Prussia. Its mineral waters are cold, and of the bromo-chloruretted, saline kind. The *Elizabeth* spring is the only one used internally. "It rises," says Dr. Scoresby Jackson, "in the southern extremity of the Nahe Island at a temperature of 48·20, and contains the following quantity, in grains, of mineralizing ingredients per pint.—Chloride of sodium, 72·80; chloride of calcium, 13·30; chloride of magnesium, 4·00; chloride of potassium, 0·5; chloride of lithium 0·5; bromide of magnesium, 0·27; iodide of magnesium, a trace; besides several other salts in very minute quantity." Dr. Oscar Prieger, of that place, has published an essay on the use of these waters in fibroid affections of the uterus; and in this essay he speaks very favourably of their good effects, when used internally and externally. The nearer the tumour lies to the abdominal parieties the more readily, he considers, it is acted on by this agent. Bromine is on good grounds supposed to be the principal deobstruent ingredient in these waters. Dr. Rigby thinks he increased the efficacy of the artificial water by the addition of some of the bromide of potassium. "In

many cases," he writes, "the results have been very successful; in some where the artificial mineral water formed the sole treatment; in others, where it was combined with the local application of leeches and mercurial ointment." Dr. Simpson has seen a far larger proportion of cases do well under a long continued course of the bromide of potassium, sometimes combined with its local application, leeching, &c.

The chloride of calcium (hydro-chlorate of lime) is another remedy which has been lately brought into notice. Though once possessing much repute as a deobstruent, it had nearly fallen into complete disuse, until Dr. Rigby revived its employment. Influenced by his strong recommendation of its virtues, I have repeatedly given this medicine for fibrous tumour of the uterus, and in some cases for many weeks together. It should always be administered in solution, for which the Dublin Pharmacopœia supplies a formula under the name of *liquor calcii chloridi*. Prescribers should be careful not to confound this with the solution of chloride of *lime*, (or more properly, of chlorinated lime) which is a very different preparation: and to prevent mistakes (which I have known committed), the name should be written at full length. Of the above solution thirty or forty drops may be exhibited three times a day, in infusion of orange-peel, or in some bitter infusion, as of quassia or calumba. If a chalybeate or hæmostatic be indicated, the addition of some muriated tincture of iron may be made to the mixture. The muriate of lime has seemed to act as a tonic, and has never produced any unpleasant consequences. In one instance its prolonged use was followed by a complete cure. The following is the history of this very interesting case.

Case 4.—This patient was sent to me by Dr. Barker, of Hatch-street, and I admitted her to the chronic ward of the Lying-in hospital 16 November, 1857. She came from Carlingford. Her age was 28. She was four years married, but had never been pregnant. Some months ago the catamenia began to increase in quantity; and for the last two months she had severe and repeated hæmorrhages, which had blanched her considerably. She was a rather small, spare

woman. The uterus formed a tumour above the pubes about the size of an orange; it was hard, and tender to the touch. By the use of the sound, and by external and vaginal examination, the diagnosis of a uterine fibroid was established.

By strict quietude of body and the employment of astringents, the hæmorrhage was completely controlled; and at the end of a few weeks she was put on the use of solution of muriate of lime and muriated tincture of iron, of each half-a-drachm, and this was given three times a-day in infusion of quassia, with the addition of a small quantity of compound tincture of cardamoms. She remained in the hospital for three months, when her general health was so much improved that she was permitted to leave for home. The tumour was reduced in size; the metrorrhagia had ceased; but she still menstruated profusely. I advised her continuing the medicine after her return to the country, which she promised to do. This was in the month of February, 1858. I did not see her again till 25th June, 1861, when every trace of the tumour was gone, and she was in excellent health. From the time of her quitting the hospital until she became pregnant in January, 1860, that is to say, for a period of two years, she continued the use of medicine. For some months after she went home, the menses were rather in excess, but they then became of the natural quantity, and continued regular till conception took place. She carried the child to the end of the eighth month, when labour set in; but the process of parturition was very protracted and the child dead born, in consequence, it would appear, of preternatural presentation.

There are few cases, I believe, in which a remedy gets so fair and so long a trial, as in the one just related.

The internal treatment may be advantageously supplemented by external applications over the tumour or to the os uteri. I have already mentioned the good effects of leeching, and this may be repeated occasionally over the hypogastrium or to the os uteri as long as any tenderness continues. The strong mercurial ointment spread on lint may be kept constantly applied to the hypogastrium; or mixed, by heat, with a sufficiency of tallow to give it consistence, it

may be freely rubbed over the os uteri every day or every second day. Used in one or both of these ways, it may prove a useful auxiliary in the treatment for the reduction of the tumour.

Unfortunately, we are often obliged to satisfy ourselves with a palliative line of treatment, and to feel thankful if we are successful even in this. As hæmorrhage is the symptom we are most frequently called on to prescribe for, I shall offer a few remarks upon its treatment. About the time when the hæmorrhage is expected to come on, all the ordinary hygienic rules for its prevention must be rigorously enforced. On no account should the patient assume an upright posture; the cold hip-bath, having a handful of powdered alum dissolved in it, should be used once or twice a-day; and a cold enema of common salt and water may be given every morning. This last will be found a very effectual remedy in many cases of metrorrhagia, besides that of which we are now speaking.

Some medicine of the hæmostatic kind should be administered. Many there are belonging to this class, which may, now and again, be employed with benefit. We have, for example, gallic acid, bitartrate of potash, alum, ergot of rye, capsicum, sulphuric acid, acetate of lead, rectified oil of turpentine, Indian hemp, muriated tincture of iron, persesquinitrate of iron, Ruspini's styptic, digitalis, ipecacuanha, mercury, and many others which it is needless to mention here. There is no rule to guide us in making a selection from amongst these, except such as the old distinction between active and passive hæmorrhages should suggest. This should not be altogether lost sight of here, though in most of these cases, the hæmorrhage is of the passive kind, and for such I do not think that digitalis, hippo, lead, and perhaps, mercury, are so well suited as are some of the others on the list.

One hæmostatic will not be found to answer equally well in all cases; and no reason can always be assigned for this variability of effect. Hence, after a few doses, should no benefit be derived from it, we must be prepared to make trial of some other. Each practitioner, probably, has his own

list of favourite remedies, in which he places most confidence, and which are the first to be tried by him. I give the foremost place to gallic acid, alum, tincture of Indian hemp, and iron. Five grains of gallic acid in a bolus, every third or fourth hour, or the same quantity of gallic acid and finely powdered alum, is a very efficient hæmostatic. Where iron is indicated by the patient's condition, either the muriated tincture, or the dried sulphate in combination with powdered alum, may be given with advantage. If the stomach be weak or flatulent, the addition of a grain of capsicum (itself recommended as an astringent) to each dose will prove useful. Irritability of stomach often proves an obstacle to the exhibition of any of these bulky and rather nauseous medicines. The mineral acids, or Ruspini's styptic may then be substituted. I have very little faith in acetate of lead in the purely passive hæmorrhages; but, as it possesses a sedative property, it may prove serviceable if any arterial excitement be present.

The hæmostatic properties of the tincture of cannabis Indica (Indian hemp) were discovered by Dr. Maguire of Castleknock, and made known to the profession by Dr. Churchill. I have repeatedly used it in the hæmorrhages depending on uterine fibroids, and can with confidence speak of its occasional marked utility. It does not always succeed—there is no one hæmostatic that will; but it disappoints less frequently, perhaps, than any other. It holds, I think, an intermediate place between the stimulating and depressing hæmostatic agents. In the following case its use seemed productive of decided benefit.

Case 5.—C. A. aged 42, was sent into the chronic ward of the Lying-in hospital, July, 1856, by Dr. Johnson, on account of long continued and profuse metrorrhagia. She was married and had one child, then some years old. For three years she had had hæmorrhagic discharges from the vagina, so that she was extremely anæmiated, and so weak, as to be scarcely able to walk without assistance. In the hypogastric region was a firm globular tumour, about the size of the uterus at the fifth month of gestation. Towards its left

side was a well marked souffle, not to be distinguished from that of a placenta. Careful examinations with the finger and sound, detected the presence of a large fibroid in the posterior wall of the uterus, and extending down into the posterior lip. Dr. Drummond, of Glasgow, was visiting the hospital at this time, and, at my request, made a careful examination of the case. He arrived at the same conclusion that I had done respecting the nature and seat of the tumour, which seemed to be partly submucous and partly interstitial.

She was ordered a cold enema every morning, and ten drops of the *tinct. cannabis Indic.*, three times a-day. Under this treatment the hæmorrhage speedily ceased, when she was put on the use of sulph. ferri et ammoniæ, and infusion of quassia. She regained her strength rapidly, and in the course of a few weeks left the house.

The ergot of rye has not seemed to act beneficially in these cases: though repeatedly exhibited it has almost always disappointed me. Dr. Ashwell's experience was much the same. In his hands the ergot appeared sometimes to increase the hæmorrhage. How to explain these differences in the effect of the medicine is quite impossible, till we become better acquainted with the anatomical conditions upon which the hæmorrhage depends.

Upon only one other remedy, in the list above given, shall I make any comment, and that remedy is mercury. The anti-hæmorrhagic properties of this mineral seem but little known. In a paper, that I published some years ago, in *The Dublin Quarterly Journal of Medical Science*, I took occasion to notice this effect of mercury, which had previously been pointed out by Dr. Ayre. We learn from Dr. Watson that the experience of Dr. Latham had led him to trust much to mercury, given to the extent of inducing salivation, in obstinate cases of epistaxis. The same author also states (in his Lectures on the Principles and Practice of Physic), that Dr. Southey relies upon mercury "as almost a specific remedy for obstinate hæmorrhage occurring under similar conditions, from whatever organ of the body it may proceed." Of its utility in the profuse sanguine discharges

dependent on uterine fibroids, a very remarkable example is related by Dr. T. H. Tanner, in the Transactions of the Obstetrical Society of London. Besides a large cyst attached to the uterus of this patient, there was a fibrous tumour as big as half a small orange, seated in the posterior wall of the uterus, and projecting fully three quarters of an inch into its cavity. "The flow of blood from the uterus was always checked with great difficulty; and, generally, a few days after it was controlled, it was again excited by the return of the catamenial period. Astringents of all kinds were freely tried on various occasions, but at no one time did they effect any good whatever. Amongst the remedies which proved useless it may be as well to mention the acetate of lead, ergot of rye, the mineral acids, gallic acid, cinnamon, iron, alum, the sesqui-chloride of iron, &c. Opium was of no value, and the infusion of digitalis did harm. Neither was any benefit derived from galvanism, or from the application of ice, or from plugging the vagina with cotton wool. With regard, however, to the tampon, it may be mentioned that the patient was so irritable, and the vagina so sensitive, that she never could bear an efficient plug for more than twelve hours, even though opium was administered to diminish the uneasiness. The only agent which had any effect in checking the hæmorrhage was mercury; and to this agent Mrs. H. owed her life on several occasions. It is important to remember that the good effects of this mineral were obtained as soon from the bichloride of mercury, in doses of the sixteenth of a grain every six hours, as from calomel given to the extent of producing salivation." I have quoted at length these particulars, as they very well exemplify the obstinate nature of the hæmorrhage on some occasions, and they also exhibit the hæmostatic properties of the mercury in a very advantageous light. This history brings out a fact which cannot fail to prove of great importance, if supported by further experience. And this is the sufficiency of the bichloride in minute doses in acting as an astringent. Were it necessary in all cases to ptyalize or to salivate the patient in order to obtain the hæmostatic effect of mercury, this would neces-

sarily exclude its administration from a great number of cases.

Where the attack of hæmorrhage is very violent, or that the remedies are not taking the desired effect, or that the patient is very much reduced and therefore unable to bear up under any considerable loss,—we still have in the tampon, or plug, a most direct and efficient agent for arresting it. But this can only be resorted to as a temporary means of controlling the discharge, and should on no account supersede the employment of other anti-hæmorrhagic remedies.

The *surgical*, like the medical treatment of fibrous tumours of the uterus, comprehends measures of a palliative or curative kind. Upon each of these a few observations may be offered. The presence of the tumour in the true pelvis may give rise, at an advanced stage of its growth, to unpleasant or serious symptoms, from pressure upon some of the surrounding structures. The symptoms which are developed by this state of things have been already pointed out; and their cause can be readily determined by internal examination. Where the tumour has not attained such a bulk as to be tightly impacted in the pelvis; or where it,—or rather the enlarged uterus,—has not contracted adhesions to the adjacent parts, it is often practicable to push it up above the pelvic brim, and thus remove at once the injurious pressure, and instantly relieve all the symptoms resulting therefrom. In performing this manœuvre the patient should lie on her left side, or better still, on her face and knees with the head low. Steady upward pressure must be made on the tumour with two fingers in the vagina, aided if necessary by another finger in the rectum.

It is only within a very recent period that surgical interference of any kind has been had recourse to, in the treatment of uterine fibroids. Although these attempts, made with a view of extirpating the tumour, have not been crowned with all the success we should desire, they have nevertheless made known to us another means of obviating the hæmorrhage which is so frequent an attendant upon the disease. Perhaps I should first state, that the late Professor David

D. Davis, of London, had a case under his care in the year 1831, in which he made three attempts to detach the fibroid, which was submucous and projecting largely into the uterine cavity. These attempts failed, and he was obliged to desist from a further repetition of them in consequence of the accession of pretty severe symptoms, viz., pain, heat and swelling about the uterine orifice, accompanied by febrile excitement, from which, however, the patient completely recovered in the course of a few days. The important part of the history is, that "she ceased to be subject to hæmorrhages, of any considerable amount, after the second attempt made by the author to effect the separation of the tumour from its investing tissue, the muco-membraneous lining of the uterus. The most probable explanation of this case" (Dr. Davis continues) "as it presents itself to the author's mind, would seem to be, that the profuse hæmorrhages which constituted so essential a part of it, had probably for their source the membrano-vascular tissue intermediate and mutually communicating between the tumour and neck of the uterus; and that this tissue, in consequence of being subjected to the results of inflammation and suppuration, became the medium of cohesion and consolidation of the two surfaces, and therefore eventually the means of hermetically plugging up the arteries or ramules of arteries which had previously furnished the sanguineous discharges. After this perfect arrest of hæmorrhage, Mrs. L. recovered her former state of health with unusual rapidity." She was under his observation from November 1831, till June 1832, when she left London to go on a tour through Germany. This lady was a widow, aged 38, and had consulted Dr. Davis, for profuse and frequently recurring hæmorrhages which had nearly destroyed her. In one case of my own, where a large submucous fibroid distended the uterine cavity, and had dilated the os to the size of a halfpenny, repeated efforts to detach it, were followed by intimate adhesion between the opposed surfaces, and a cessation of the hæmorrhages that had been so great as to endanger her life.

In cases of this kind with the tumour greatly intruding

on the cavity of the womb, my anticipations of an increase of hæmorrhage, in consequence of free explorations with the finger and sound, have very seldom been realized; on the contrary they were followed, more frequently than otherwise, by diminution of the red discharge. How to explain this, except in the way Dr. Davis has done, I know not.

These facts have some degree of significance, if not of positive value. They show that even our endeavours to effect a radical cure, (unsuccessful though they may be,)—or to arrive at a precise diagnosis,—may now and again be rewarded by the subjugation of one of the most formidable symptoms of the disease, and thus be the means of prolonging the patient's life.

Mr. Baker Brown, M. Nélaton, and myself, have all, independently of each other it would seem, made the observation that a free incision of the os and cervix uteri, is in these cases *very generally followed*, by a marked decrease of the hæmorrhages. This discovery makes an important addition to our resources for the palliative treatment of these growths. It is a very interesting subject for inquiry, what the *modus operandi* of this proceeding may be. Mr. Baker Brown's explanation is, "that the division of the os and cervix uteri permits the fibres of the body of the uterus to contract upon the contained tumour, and thereby to compress the vessels and prevent hæmorrhage;" and this was the rationale which presented itself to my own mind, but I do not feel quite satisfied that it is the right one. I shall now relate two cases in which the incision of the os uteri was practised.

Case 6.—*Large submucous fibroid: incision of os.*—A widow aged 40, who had never been pregnant, was received into the chronic ward of the Lying-in hospital in the beginning of September, 1860. The uterus was so enlarged by the pressure of a fibroid, that the fundus reached to the umbilicus, and the os was low in the pelvis and dilated to the size of half-a-crown. The finger could be passed, within the uterus, high up on the posterior surface of the tumour, but in front it was soon arrested by the identification of the tumour and uterus. Three years before this she first

became aware of the presence of a tumour, in the lower belly. For fifteen months back, violent hæmorrhage had been a frequent symptom, obliging her to come into hospital, and occasionally necessitating the use of the tampon. She had thus been under observation for a long time, and the gradual obliteration of the cervix and dilatation of the os had been noted. At the time to which this report now refers (September, 1860) her general health was good, but she was very anæmic. Owing to the size of the uterine orifice, the tumour could be easily brought into view. Its surface was of a pink colour and very vascular, so that it bled when cut, or scratched. The edge of the os was tolerably thin, and tense, as we find it in the early part of a first labour. In order to get freer access to the interior of the uterus I resolved on dividing the os. Accordingly on the 20th September, whilst she was held in the lithotomy position, by Drs. Byrne and Halahan (the assistant physicians,) I slit up the anterior segment of the os with a scissors. The entire circumference of the orifice was immediately enlarged, so that the little flaps on either side of the incision at once disappeared. During the succeeding weeks I made a variety of ineffectual attempts to detach the tumour from the uterus. I also made free applications of potassa fusa to its exposed surface, and even pushed the caustic to some depth into its substance, in a hole previously made with a bistoury,—in the hope of exciting destructive inflammation, but with no better success. Superficial sloughs formed and were soon thrown off, leaving a healthy granulating surface behind. The tumour was wholly unattached to the uterus posteriorly, so that a bougie could be passed up for five or six inches without opposition. Anteriorly its union with the uterus was so close and firm as to resist any strong efforts to separate them.

When repeating these attempts after an interval of some time I found, more than once, that adhesions had formed between the free surface of the tumour and opposed uterine wall; which adhesions I had to break down with the finger. On examining this patient some months afterwards, I discovered that the greater portion of the circumference of the

os uteri had become closely united to the tumour. From the time that the os was incised to the present she has been free from any immoderate discharges of blood: has regained her strength and so much improved in health as to be able to resume her occupation of a domestic servant; but the tumour has undergone no diminution of bulk.

Case 7.—*Large submucous fibroid: incision of os.*—A respectable unmarried woman, aged 30, found the catamenia becoming rather excessive in the beginning of the summer 1859. In other respects she felt quite well, and never had been so affected before. This menorrhagia increased with each period, and in January, 1860, it was so violent that Dr. Denham was brought to see her, when he discovered the existence of considerable enlargement of the uterus. In the following November I admitted her to the chronic ward of the Lying-in hospital, at the request of Dr. Johnson. She was extremely anæmiated; had a frequent small pulse; constantly suffered from head-ache and irritable stomach,—symptoms which were clearly attributable to the hæmorrhages. She was moderately stout; with dark hair; and bore extensive marks of strumous ulcers on her neck. The uterine tumour was very hard and extending upwards to mid-way between the pubes and umbilicus. Sharp cramp-like pains were occasionally experienced in it. The vagina was contracted: the os uteri thrown posteriorly, and the cervix shortened, or expanded by the enlargement of the body. When the menstruating period came on in December, I found the os dilated to the size of a fourpenny, and its edges very thin. On introducing the finger a smooth globular tumour was felt, unconnected with the uterus at any point within reach. Towards the end of January (1861), she was much tormented with recurring pains in the uterus, and on examination I found the os uteri dilated to the size of a shilling. It closed again in a few days. The hæmorrhagic attacks now subsided, and she left the hospital, and did not return till the end of July, the hæmorrhages having again come on. I now determined on incising the os, so as to be able to ascertain exactly the relations of the tumour.

On 1st August, this was done in two places, with a scissors, whereby a great increase of orificial space was gained. No hæmorrhage or unpleasant symptom supervened. We were now able to ascertain that the fibroid was attached to the upper and anterior part of the uterus, but had no union with the posterior wall. In these respects it closely resembled the case last related. From this period up to the present, the hæmorrhages have ceased to be so prominent a symptom as they were before.

On three different occasions Dr. Denham and I, assisted by Dr. Churchill, Dr. Halahan, and Dr. J. R. Kirkpatrick, cut away portions of the tumour. The last of these operations, (in December, 1861) was followed by some uterine tenderness, and slight febrile disturbance. Calcareous matter was found in the portions of tumour last removed. So far it does not appear that any benefit of a curative kind has resulted from these measures: but her health is so far improved that she has been able to follow her business as superintendent of a large millinery establishment. The menstruation is considerably in excess, but otherwise there is no hæmorrhagic discharge. The fibroid seems somewhat increased in size.

Before quitting this part of the subject I should mention that Dr. Atlee has described another procedure by which he says, the hæmorrhages attendant on these tumours have been "invariably arrested instantaneously;" and this method is, "during hæmorrhage, to pass the bistoury along the vagina into the cavity of the uterus, and make a very free incision into the most exposed portion of the tumour." He is of opinion that the vessels of the membrane enveloping the tumour are the source of the hæmorrhage (as Dr. Davis supposed), and not the uterus itself. And arguing from this (rather questionable) foundation, he offers a theory as to the way in which the above practice affects the suppression of the hæmorrhage: "The veins of the investing membrane become at times greatly engorged, in consequence of their circulation being impeded by the muscular action of the uterus, while the arteries, by reason of their more resisting coats, continue

to supply them with blood. The point of least resistance must consequently be at the os uteri, as all the other parts are compressed by the contracting uterus. The veins on the surface are thus distended. The mucous membrane is delicate and offers but little resistance to the rupture of these vessels;" and the practice above-mentioned is based upon this fact, he says. Few practitioners will be disposed, we think, to accept, without sufficient proof, this anatomical description, or to acquiesce in the reasoning based upon it: but if the practice he recommends be successful, we shall, nevertheless, feel most grateful for his discovery.

It yet remains for me to say something upon the *curative* treatment, by surgical means, of uterine fibroids. Three plans have been proposed and carried into effect. The first of these consists in laying open the abdominal cavity, exposing the uterus, and cutting away the tumour, or the uterus and tumour together. This operation has nearly always proved fatal. In fact it does not come within the pale of legitimate surgery, and we may therefore dismiss it without further comment.

The second plan is that of enucleation, originally suggested by Velpeau, and performed by Amussat. The results of this operation are very far from encouraging, and it may be doubted whether it will ever become an established mode of practice. It is attended by grave dangers of an immediate and remote kind—viz., hæmorrhage and pyæmia. The idea of the operation suggested itself to the mind of Velpeau, from observing the looseness of attachment between some of these tumours and the uterus. But in my experience it is quite exceptional to find the connections of the tumour with the uterus, so lax, as to admit of its ready enucleation or dislodgment: whilst in most cases very great and direct force would have been required to effect this: and in some instances, as Dr. Rigby remarks, the tumour seems to be almost *continuous* with the uterine substance, so that its detachment would be next to an impossibility. However, this operation should not be totally proscribed. In cases where the extent and degree of attachment between the

tumour and uterus are ascertained to be small, and the os uteri is well dilated or very thin, it would hold out a very fair prospect of cure, and its performance under these circumstances would, I conceive, be on every ground justifiable.

The third plan is that of which Mr. Baker Brown was the originator, at least in these countries. It consists essentially in excavating or gouging, a hole in the substance of the tumour, and filling it with oiled lint or charpie, so as to cause the death, solution, and subsequent expulsion of the fibroid from the uterus. As a preliminary measure the os and cervix are divided with a scissors or bistoury, in order to reach the tumour satisfactorily. The latest report I have seen of Mr. Brown's further experience of this operation, is contained in the third volume of *The Transactions of the Obstetrical Society of London.* In it he states, "That this operation may be performed successfully and safely. Out of the dozen and more cases in which I have practised it, I have lost but the one which I have narrated in this paper, a circumstance explicable as an accident." Most of the published cases treated by Mr. Brown on this plan, terminated satisfactorily, and reflect the highest credit on his ingenuity, perseverance and surgical skill. If the same results continue to attend the operations, it must be regarded as a most valuable addition to our resources in the treatment of uterine fibroids, At the same time I think, that the discovery of a safe and effectual means of restraining the hæmorrhages incident to this disease, would entitle him to more lasting gratitude than the discovery of a formidable operation that *may* cure, but which is undoubtedly attended with a good deal of risk.

For full particulars about the performance of this operation, and the instruments used, &c., I must refer the reader to the paper above-mentioned, or to the second edition of Mr. Baker Brown's work on "*The Surgical Diseases of Women.*"

POLYPUS OF THE UTERUS.

HÆMORRHAGE is the chief source of danger in uterine polypus, and we find it to be the leading, or the sole symptom of the disease, though not universally so. I have seen a few instances, even of large polypi in the vagina, where hæmorrhagic discharges had only occurred once or twice, in the history of the case, and then only in moderate quantity. In elderly women, or those who have passed the menstruating era of life, hæmorrhage is a less common and a less urgent symptom than before this period.

Case 3, in the memoir on inversion of the uterus, is a very good example of this. A polypus the size of a walnut was attached to the fundus of the uterus, and had been probably growing for months or years; and yet no sanguineous discharge whatsoever took place until the uterus became inverted. This woman's age was 66.

The hæmorrhage generally shows itself at the commencement, in the form of menorrhagia, and afterwards may occur at irregular periods, exciting suspicion for the first time perhaps that there is anything more the matter than merely functional derangement of the womb. The amount of hæmorrhage is very variable and bears no proportion to the size of the growth. The largest polypus I ever saw (Case 15) had been unattended by hæmorrhage for many months. It is stated by West and others, that the hæmorrhage is more profuse while the polypus is confined to the uterine cavity, than when it has passed from thence into the vagina; and this accords with the tenor of my own experience. Life may be endangered by the excessive quantity of the sanguineous discharge.

The precise source of this hæmorrhage,—whether from the uterus, or from the tumour,—is still a disputed point; though the weight of authority leans to the former. Notwithstanding that the hæmorrhage almost invariably ceases upon the strangulation of the tumour, there is good reason for thinking that the blood comes, in great part at all events, directly from the interior surface of the womb itself. This receives strong corroboration from the fact that in one or two instances I have seen considerable hæmorrhage to come on some hours after the ligature had been tightly applied around the neck of the tumour. Such an occurrence also happened in the practice of the late Dr. Gooch, and of Scanzoni. However, I will not deny but that on some occasions, blood may be discharged from the investing membrane of the polypus, as I have seen it to yield blood very freely when incised.

Experience has abundantly shown that the presence of a uterine polypus does not create an insuperable obstacle to conception: most probably it is the hæmorrhage so constantly accompanying it that hinders impregnation, or interrupts gestation; and that, consequently, where this symptom is wanting, impregnation may, *cæteris paribus*, take place.

Although not at all so common as uterine abrasion, prolapse, or cancer, still polypus can hardly be said to be a rare disease. It is difficult to say whether climate or mode of life affects its frequency. During my connection with the Lying-in hospital, I could not have seen less than forty cases of polypus uteri; and yet Dr. Dewees in the earlier editions of his Treatise on the Diseases of Females tells us he had never met with this disease of the uterus, and had described it from the writings of others.

The surface of a benign polypus varies in colour from a pale pink, to a deep red or purple, and it is quite smooth to the touch. These characters it is well to bear in mind, as they occasionally assist us in forming a diagnosis. Digital examination is unproductive of pain, that is to say, the tumour itself is quite insensible. Neither does this examination ordinarily bring on red discharge. In some rare

instances, however, bloody discharge is excited by touching, and should the case present any other deviations from the ordinary characters, doubts may then be entertained of its benign nature. Of such the following is a good example.

Case 1.—*Polypus resembling malignant disease: extirpation by ligature.* A tall thin woman, aged 48, of dark, sallow complexion, and the mother of ten children, was admitted to the chronic ward of the Lying-in hospital in August, 1856. For two years she had had discharges of blood from the vagina, and during the preceding two months the hæmorrhages had alternated with copious watery discharges. There was no pain, and no hypogastric tumour, though much pelvic uneasiness. The vagina contained a soft pediculated tumour about the size of a pear. The neck was encircled in front by the os uteri, and behind was continuous with the posterior lip of this orifice. Digital examination was always attended with some pain and a free escape of blood, which circumstances, taken in connexion with the softness of the tumour, and the watery discharges, led Dr. Churchill and myself to suppose, on the moment, that the growth was one of a malignant or fungoid nature. But on submitting it to ocular inspection, the smooth surface, and the uniform pink flesh colour of the tumour satisfied us of its non-malignant character. A ligature was applied by means of Gooch's canula, and the polypus came away in four days. It is preserved in the museum at the Lying-in hospital. In structure it was fibro-sarcomatous, the fleshly element largely predominating. She recovered perfectly, and some weeks afterwards, scarcely a trace remained of the extensive, though superficial ulceration of the os uteri, which had doubtless been the cause of the hæmorrhage and of the pain on digital examination.

Uterine pain, and tenderness to manipulation, are not included among the proper symptoms of uterine polypus, yet both may be present at different stages; the former when the tumour is still within the uterus; and the latter after it has been expelled, and when some ulceration is present, as in the case last related. The discharge may have a fœtid odour, from the retention and putrefaction of blood.

Case 2.—*Polypus with symptoms of malignant disease: extirpation.* A married woman, ætat. 46, who had one child twenty years before, was sent to me by Dr. Banon, and admitted to the hospital, in July, 1859. She menstruated regularly and had good health up to last December, when she began to have frequent discharges of blood from the vagina; severe pains in the hypogastrium, chiefly at night; and a watery *offensive* discharge from the vagina during the intervals between the hæmorrhages. The pulse was a little quickened, and she had a sallow complexion. Immediately above the pubes there was some tenderness and fulness, but no clearly defined tumor. The cervix seemed short and the body of the uterus rather enlarged. These symptoms, I freely confess, led me to apprehend the existence of malignant disease of the body of the uterus. Under the use of chalybeates, and cold enemata, with rest, she got very much better. The pain subsided, the bloody discharges ceased, and the appetite improved. She left the hospital 18th August.

Not long afterwards the hæmorrhages recurred, and she became an in-door patient in one of the medical hospitals of the city, where she remained two months and went home, as before, considerably improved, but still had severe menorrhagia, with muco-aqueous discharge in the intervals. So things went on till she again came under my care in the month of March, 1860, when on examination I found a polypus in the vagina, as big as a pullet's egg, with a peduncle about the diameter of a goose quill. Its surface was smooth, red, and vascular. I removed this polypus by torsion, without causing any pain or hæmorrhage. The catamenia made their appearance some days afterwards (their proper time), in the natural quantity. The leucorhœal discharge and hæmorrhages entirely ceased, and she went home quite well, and continues so up to the present time.

Dr. Meigs, in his " Letters to his Class," relates an instance where a dead ovum protruding from the mouth of the womb, was mistaken for a polypus. A similar error was committed by a novice, in a case that subsequently came under my own

care. The frequently recurring hæmorrhages, throughout a period of several weeks, naturally suggested the idea of a polypus being present: whilst the soft pear-shaped ovum, encircled by the os, was readily supposed to confirm the suspicion. A person, even of moderate tact, might fall into this mistake, if the mind was prepared for it by the history of the case. Such a delusion can only last for a moment, however. More careful examination, or an ocular inspection will at once remove all doubts. In the following case a polypus was mistaken for the product of conception.

Case 3.—*Polypus mistaken for an ovum: excision.* A healthy-looking young woman, aged 27, was sent to the Lying-in hospital, from the county Tipperary, on account of persistent hæmorrhage following upon a miscarriage. She was one year married, and had aborted some months ago; and again, as was supposed, four weeks ago. The medical man who sent her was chiefly urged to do so, in consequence of the obstinate retention of what he supposed to be the ovum, in the os uteri. On examination with the finger, a soft yielding substance about the size of a man's thumb, was hanging in the vagina from the uterine orifice. It certainly had, to the touch, very much the feel of a small partially collapsed ovum: but on looking at it through the speculum, it presented a bright red color, and bled on the slightest touch,—characters which, it is almost needless to observe, an ovum is never known to present. Its neck was about the thickness of a goose quill, and when this was cut across with a scissors, one small artery spouted out freely; but this hæmorrhage was soon stopped by the application of strong nitric acid, the solution of perchloride of iron and cold injections having failed to arrest it.

Prolapse of the uterus, or actual protrusion of the polypus from the vulva, may occasionally take place, and lead to misconception as to the real nature of the patient's ailment; especially if the hæmorrhage has been inconsiderable. Some writers rely a good deal upon this casual descent of the tumour, as contra-distinguishing polypus from chronic inversion of the womb, but it is not at all to be depended on.

Without physical examination the diagnosis of polypus can never be established; and in the absence of hæmorrhage there are no symptoms which can lead us to form even a surmise of its existence,—so many are the lesions which may give rise to the increased mucous discharge and the pelvic uneasiness, which are then its only attendants.

Case 4.—*Polypus mistaken for prolapsus uteri.* In the month of June, 1858, the late Dr. Whitestone asked me to see with him a young unmarried lady, who had come up from the north of Ireland on account of some "relaxation of the womb," attended with leucorrhœal discharge. No derangement of menstruation, or other symptom of uterine disease, was present. We insisted on making an examination, when we discovered a long fleshy substance hanging from within the os uteri, and appearing at the vulva. It was of a florid red color, and fleshy structure, exactly like muscular fibre. The patient seemed wholly unconscious of its presence. It was removed by torsion close to the os tincæ; after which the mucous discharge completely ceased, and the patient lost all sensation of bearing down, and has continued perfectly well to the present time.

In this instance the patient was for months supposed to have some slight prolapse of the uterus. In the following case, the polypus occasionally protruded beyond the vulva to the extent of two or three inches, and was mistaken for a procident womb, to which it bore a very striking resemblance.

Case 5.—*Polypus mistaken for procident uterus.* M. R. aged 27, a very tall woman, from the Co. Fermanagh, was admitted to the chronic ward of the Lying-in hospital, January, 1861. She is nursing her third child, which is now five months old. Since its birth she has had a copious discharge of blood every month, lasting for six or seven days, and has been subject, she states, to a descent of the womb, externally, causing very great annoyance. This tumour, which she had been led to suppose was the uterus, was about a finger long, and an inch in diameter, and getting small towards the extremity; it was covered with a smooth mucous membrane the same as that of the vagina, and there

was some ulceration on its free end. Except for the absence of anything like an os uteri, the whole tumour bore the most complete resemblance to a procident uterus, with ulceration of the cervix. It proved on examination to be a polypus growing from the posterior lip of the os uteri, by a pedicle an inch long, and of the thickness of one's little finger. As there was a strong arterial pulsation in the stalk of this polypus, I thought it best to divide it with the écraseur; this was done close to the tumour. When the uterus was inspected the following day, curious to say, no vestige of the pedicle remained: there was merely a small raw spot on the posterior lip, marking the point whence the tumour had sprung.

Very similar to this case is the following, which came under my care some years ago. E. B. aged 45, a large corpulent woman, has had six children—five years since last; always menstruated regularly and without pain. A year and a-half ago she began to experience a fulness in the vagina, with a sense of bearing down, and she occasionally feels as though some "lump" were going to fall out of the passage. Some days ago, in a violent fit of coughing, a tumour prolapsed beyond the vulva, and has remained there up to the present time. She had smart hæmorrhage for a couple of days after the descent of the tumour, and this was the first and only attack of the kind she ever had. The polypus was fully as large as a goose's egg, and very much resembled a procident uterus. It was soft to the feel, and had a pedicle as thick as one's forefinger, three inches long, and arising from the anterior lip of the os uteri, which is much drawn out in consequence. A ligature was applied a little way from the tumour, and in forty-eight hours the pedicle was severed with a scissors immediately above the ligature, which had cut nearly through, and the tumour was dead and fetid. A few days subsequently I ascertained by examination that the remains of the pedicle had shrunk so much as to be scarcely perceptible.

The readiness with which a polypus may be diagnosed depends very much upon its bulk. A very small polypus

may escape detection by an uneducated finger; or may be concealed from view within the edges of the uterine mouth. A very large polypus so fills up the vagina, as to cause more or less difficulty in reaching the os uteri and determining its relations to the tumour; and it is mainly on these relations that our opinion is to be formed. The diagnosis of intra-uterine polypus is next to an impossibility as long as the os uteri remains closed, refusing admission to the finger. Its presence may be suspected if there be no other discoverable cause for the hæmorrhages, and especially if the body of the uterus be enlarged. Under these circumstances the diagnosis will lie between polypus and fibrous tumour of the uterus. I shall have occasion to advert to this point further on. To distinguish between a polypus and a chronic inversion of the uterus, may sometimes be a matter of considerable nicety. In such a case as this, the uterine sound will prove an invaluable help to us. It is of the utmost importance in every instance to become acquainted with the historical facts of the case, as this alone will often guard us from error. In the chapter on Chronic Inversion of the Womb, a case is detailed wherein this organ narrowly escaped excision under the idea that it was only a polypus.

Although Gooch (and many succeeding writers) have laid considerable stress upon the distinction of polypi growing from the fundus, the cervix and the os uteri; yet practically this is of no great importance, the diagnostic marks of polypus are but little affected, and the treatment not at all so.

Sickness of stomach, I may here remark, is a symptom occasionally attendant upon polypus, and may mislead the physician very much. I have known patients who underwent long courses of treatment for the cure of this supposed gastric disease, but without deriving the slightest benefit till the existence of a uterine polypus was discovered; and after it was extirpated the sympathetic affection ceased. This symptom is most apt to occur when the polypus is lying in the os uteri. It furnishes an admirable illustration of what the late Sir Henry Marsh has described under the name of "transmitted affection of the stomach."

Polypus uteri is comparatively of very rare occurrence before twenty-five or thirty years of age. Of *thirty-four* patients affected with this disease, who have come under my care, the age of the youngest was twenty-five years; and of the oldest, sixty years; and the remaining cases were pretty nearly equally distributed throughout the intervening years. The social condition of the woman seemed to exercise no influence upon its production: the married, widows, and virgins, were among the number of the above cases, but the last formed by far the smallest proportion. Of the married women the greater portion had borne children, and some had so many as seven, eight, nine, and ten, even. Two examples of pregnancy subsequently to the cure of this complaint have come before me. In one of these the late Dr. Montgomery had extirpated the tumour. The lady had borne two children before its appearance, and she had a third child after its removal. The other case I shall briefly relate.

Case 6.—*Polypus removed by ligature: subsequent conception and delivery.* A woman, aged 29, had a fibrous polypus removed by ligature in the usual way, in the Lying-in hospital. The neck of this tumour was very dense, and about equalled in thickness a man's index finger, so that the ligature took five days in cutting through. She recovered perfectly. Four years after the operation she married, and immediately conceived, but miscarried at three months. She quickly conceived again, went to the full term and was delivered in the hospital of a live girl. There was considerable laceration of the perineum, and she got some diffuse inflammation of the buttock ending in suppuration and the formation of an abscess which had to be lanced: eventually, however, she did well.

Pugh in his Midwifery mentions a case where he removed a polypus during parturition: the patient recovered and was subsequently four times pregnant. In fact, there is no reason why the function of conception should not be completely restored after the removal of a polypus, provided the uterus be free from disease. But, as fibrous tumours

connected with the uterus are seldom solitary, the presence of a fibrous polypus affords ground for presuming that there may be a fibroid in the uterus, in which case impregnation is not probable.

The prevailing anatomical character of the polypi I have removed was fibrous; not the white, dense form of growth (of which there was but a single specimen), but approaching rather to what is called fleshy or sarcomatous: the term "fibro-sarcomatous" best describes it. The particular structure of which a polypus is composed does not seem to have any influence upon the hæmorrhage or other attendant symptoms. Whether the part of the uterus from which it springs affects the composition of the growth, is a point I cannot positively determine, but am disposed to think that it does, in some degree at all events. For example, the truly fibrous or muscular polypus generally has its root in the fundus, or body of the organ; the sarcomatous polypus, in the upper part of the cervix or lower portion of body; whilst the gelatinous, and vascular polypi, almost always have their origin in the os uteri, or lower portion of the cervix. This pathological distribution, no doubt, is occasionally departed from, but still it will be found to obtain in a large number of cases. Several examples of gelatinous and vascular polypi were met with, and were sometimes as large as a Spanish chestnut, presenting a red vascular exterior, and tolerable firmness to the touch, but very easily lacerated. These gelatinous polypi are seldom attended by metrorrhagia, but may give rise to slight abrasions of the os uteri. One very perfect example of the channeled polypus, described by Mr. Oldham, came before me.

Case 7.—*Channeled polypus removed by ligature and écraseur.* A stout, healthy-looking woman, aged 48, a widow for seventeen years, but had two children. Has had irregular and copious discharges of blood from the vagina for more than three years, and they have increased of late, accompanied with occasional pain and uneasiness in the right iliac region. To the right of the median line, and deep in the hypogastrium, is a firm globular swelling, rather tender

on pressure. In the vagina was a fleshy polypus, somewhat larger than a turkey's egg, having a long, thick pedicle which ran up within the uterine orifice. Some uneasiness, and a free discharge of blood, were produced when the tumour was handled. Her general health was good. Dr. B. G. Guinness, assistant physician to the hospital, applied a fishing-line ligature around the pedicle, with the aid of Gooch's silver canula. Tightening the ligature caused some pain, which soon ceased, however. The following morning the great bulk of the tumour was drawn, though not without some trouble, beyond the vulva, when I substituted the chain of the écraseur for the ligature around the pedicle, which was then cut across, in the usual way, working the instrument very slowly. When removed the tumour was fully the size of an orange, but it diminished considerably in size by the escape of a quantity of blood which was contained in numerous sinuses or canals, traversing its substance principally in the longitudinal direction. She went home quite well on the eighth day after the operation. The os uteri was then quite healthy and free from abrasion, and she said the pain in her right hip had entirely gone, though the tumour remained. I have no doubt that this swelling in the right supra-pubic region, was a fibrous tumour connected with the right side of the uterus. As the woman's general health was good, the presence of this tumour did not seem to militate against the propriety of the operation. To this point, however, I shall probably have occasion again to refer. The preparation of this polypus is in the museum of the Lying-in hospital.

Although pain is not usually considered to be a symptom of uterine polypus, nevertheless it has sometimes been present during a limited period of the history of a case, as already noticed. It was of a spasmodic kind, and situated apparently in the uterus, which, for the time being, was tender to pressure. This symptom may probably have been due to contractile efforts of the uterus to expel the growth from its cavity. In Cases 2, 7, 8, and 20, pains of a very acute kind preceded, during several days or weeks, the

expulsion of the tumour from the interior of the womb into the vaginal canal.

Before speaking of the different modes of extirpating polypi, I would wish to give the details of a very remarkable case in which a spontaneous cure took place. This is the only instance that has come before me, where a uterine polypus has been got rid of by natural means.

Case 8.—*Spontaneous cure of polypus.* A widow, aged 60, the mother of nine children, sustained profuse losses of blood *per vaginam* from time to time for nearly two years, unaccompanied by any pain, except towards the end of this period, when she often experienced sharp pains in the back and hypogastrium, which she compared to the pains of labor.

This was in the month of April, 1859. About this time she applied to Dr. Fitzpatrick, of Moynalty, Co. Meath, who instituted a careful examination, and ascertained the existence of "a smooth pyriform tumour in the vagina,—insensible to touch, and encircled above, at its neck, by the os uteri." Dr. Fitzpatrick then sent her up to me, for the removal of this polypus. Some days intervened between the time of this examination, and her arrival at the hospital. I found the uterus low; its orifice very open, with the border thin and soft, and a firm, rough tumour within the os uteri and partially protruding from it. There was an exceedingly fœtid, greyish discharge from the vagina. Above the pubes some uterine tumour was perceptible. Through the speculum the os was seen to be largely dilated, but thin and healthy, and occupying its orifice was a dark green and brownish, rough looking tumour. A bougie could be passed up some distance into the uterine cavity, and carried all around the tumour. I took hold of this tumour with a vulsellum, but on pulling firmly, it gave way, and only a small bit was removed. The fragment was evidently in a gangrenous state, but its fibrous structure was still apparent, and it lacerated in a definite direction. There had not been any bloody discharge for some days. She had no abdominal pain, but the pulse was frequent and small, and the tongue rather inclined to be dry and brown down the centre. In the course of the

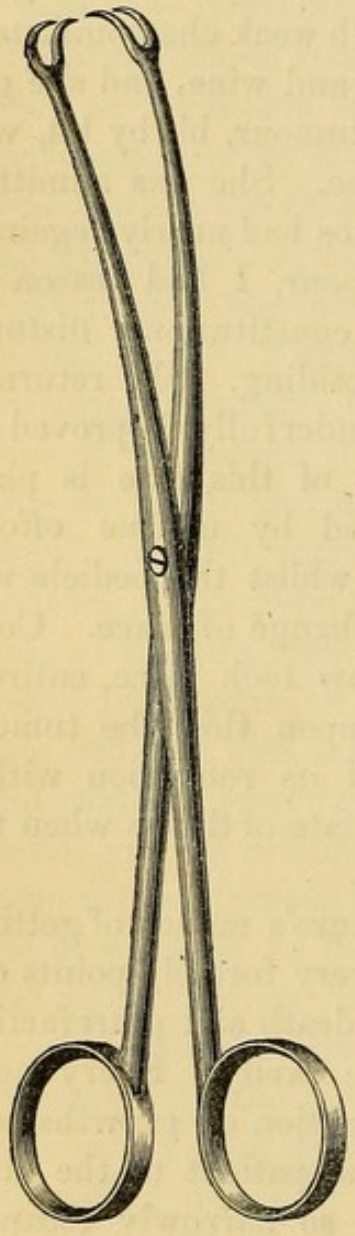
next seven days, I succeeded in extracting several fragments of the tumour in a very decomposed offensive state; and a good deal more came away in the discharge. During this period her life was seriously threatened from the amount of irritative fever which was present. She had rigors, a small rapid pulse, dry tongue, loss of rest, and total loss of appetite. However she was of a very sanguine cheerful temperament, which contributed not a little to her recovery. The vagina was carefully syringed twice a-day with weak chamomile tea: her strength was supported with bark and wine, and she got opiates at night. According as the tumour, bit by bit, was withdrawn, the os uteri began to close. She was admitted on the 8th April, and by the 20th the os had nearly regained its normal closed state, and the tumour, I had reason to believe, was entirely removed. The constitutional disturbance, too, was at this time rapidly subsiding. She returned home at the end of the month, wonderfully improved in health and strength. The rationale of this case is plain enough. The polypus was expelled by uterine efforts attended with pain, through the os, whilst the pedicle was still insufficiently elongated for this change of place. Complete strangulation of the tumour now took place, entirely destroying its vitality. Consequent upon this, the tumour diminished in size, so as to permit of its retraction within the uterine cavity: and this was the state of things when the woman came under my observation.

This case illustrates to us one of nature's modes of getting rid of a uterine polypus, and it also very forcibly points out the great danger attendant upon the death and putrefaction of such a tumour, within the uterine cavity. Every mode of procedure which aims at the destruction of growths contained in the womb, must expose the patient to the same imminent perils, which this woman so narrowly escaped. For these reasons I am somewhat doubtful whether Mr. Baker Brown's operation of gouging intra-uterine tumours, —even if it become more easy of performance—will, generally, prove a successful one. The train of symptoms which

followed it, in some of his cases, very closely resembles those above described.

For the cure of uterine polypi it may be safely affirmed, that there is no one method equally advantageous and equally applicable to all cases. The different methods pursued in the cases here reported embrace nearly all those at present in use, and may be included under these three heads, viz., *torsion*, *excision* or *ablation*, and *deligation*. The first of these, viz., *torsion*, is particularly applicable to small polypi, or rather to cases where the pedicle is small, not thicker, for example, than one's little finger. The tumour was seized, through the speculum, with a vulsellum, and twisted round and round till the stalk was severed. About the largest sized polypus, I ever removed in this way, had the bigness of a sheep's kidney. I have usually found, that a vulsellum with a fixed joint is preferable to one with a moveable or open lock. For all such purposes as seizing an ovum, a tumour, or the cervix uteri, the adjoining form of the instrument (fig. 14, half the original size) will prove safe and convenient. When shut the points are perfectly guarded. The blades are rounded, and the hinge or joint is of such a nature, that in closing the blades no injury, such as cutting or pinching, can possibly be done to the soft parts.

FIG. 14.



Vulsellum with an improved joint. One half the size of original.

Case 9.—*Fleshy polypus: removal by torsion.* A woman aged 40, who had been a widow for eight years, but had borne one child, suffered under menorrhagia for four months,

when the discharge became constant, and having gone on for three weeks, she sought advice. I found a fleshy polypus nearly as large as a mutton kidney, and of the same shape, attached to the interior of the cervix by a pedicle as thick as my little finger, and of rather a soft structure. Three or four turns of the polypus were sufficient to sever its connexion with the uterus. This caused scarcely any pain and no hæmorrhage. The patient did well afterwards.

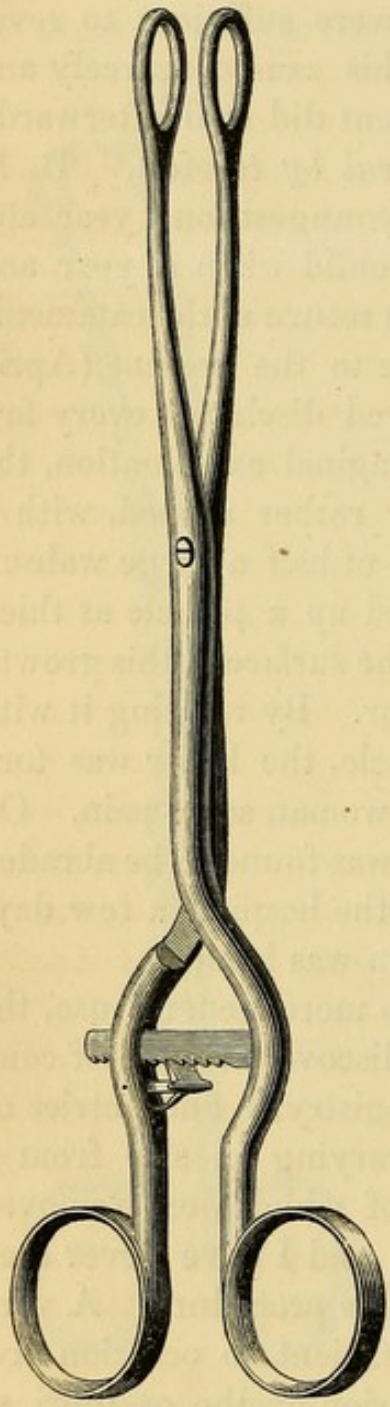
Case 10.—*Fleshy polypus: removal by torsion.* B. F. aged 36, had eleven children, the youngest one year and nine months old. She weaned this child when a year and five months old, in consequence of the return of the catamenia in profuse quantity. From that time to the present (April, 1859,) she has had more or less of red discharge every few days, but no pain whatsoever. On vaginal examination, the os uteri was found to be covered, or rather capped, with a tumour of mushroom shape, the size of half a large walnut, from the centre of which there passed up a pedicle as thick as a goose quill within the uterus. The surface of this growth was smooth, and had a deep red color. By rotating it with the vulsellum a few times on its pedicle, the latter was torn through. The operation caused the woman some pain. On withdrawing the polypus, the os uteri was found to be abraded to a considerable extent. She left the hospital a few days subsequently, and before this abrasion was healed.

Since the speculum has come into more general use, the existence of small polypi has been discovered to be of common occurrence. In my clinical registry, I find entries of eighteen cases of uterine polypi, varying in size from a chestnut to a small pistol bullet, all of which were removed by torsion, or torsion and avulsion; and I have never seen any unpleasant consequence attend this procedure. A very small growth of this kind may be sufficient to occasion profuse menstruation, or produce abrasion of the os uteri, as remarked by the late Dr. Montgomery.

The preference for this mode of operating (*i. e.* by torsion,) depends altogether upon the size of the pedicle and not that of the tumour. If the pedicle be much thicker than the

little finger I would not think of torsion, as it might endanger the integrity of the uterus. Dr. Montgomery published a case where a portion of the organ was actually detached and brought away adhering to the pedicle; the patient nearly lost her life from the hæmorrhage which ensued.

FIG. 15.



Fenestrated forceps for seizing mucous or soft polypi. One half the size of original.

In operating for the removal of gelatinous polypi, the vulsellum is not a good instrument; they break down and collapse under its grasp, and the now flaccid cyst eludes our efforts to seize or twist it off. A small fenestrated forceps, such as that shown at fig. 15, takes a good hold and is not apt to burst or lacerate the tumour.

Excision, or *ablation*, of polypi may be effected by means of the knife, scissors, or écraseur. Where there has been room for a choice between these, the écraseur was preferred on account of the security which this mode of operating gives against hæmorrhage. That there is a certain amount of risk of hæmorrhage, where the pedicle is severed by the knife or scissors, cannot be denied; and it is therefore but prudent to avoid this risk when we can do so without sacrificing any advantage.

Dr. Montgomery mentions a case of fatal hæmorrhage after the excision of a polypus; and the following case occurred to myself.

Case 11.—*Polypus removed by scissors: arterial hæmorrhage.* M. C. a married woman, aged 37, has had two children, six years since last. Some months ago she noticed a tumour

low in the vagina, and occasionally becoming external. Catamenia regular, and not immoderate in quantity. A flattened tumour about the size of a small hen's egg protruded beyond the vulva. It was of a pink color, and superficially abraded. It grew by a pedicle as thick as one's third finger, from the inside of the anterior lip of the os tincæ. The woman was in excellent health, and there was no perceptible pulsation in the pedicle. I divided this with a scissors close to the tumour. Smart hæmorrhage succeeded, and the saturated solution of perchloride of iron in glycerine was applied to the bleeding surface. This checked the general oozing of blood, but two arteries continued to bleed; and having failed, after repeated attempts, to take them up, I included the pedicle in a strong silk ligature, whereby the hæmorrhage was completely arrested. The woman eventually did well.

On *six* occasions the mode of extirpating uterine polypi by écrasement was adopted, and in all with the most satisfactory results. The first time I used the écraseur for this purpose was in January, 1858; Case 7, already detailed at page 164. In using the instrument, I have generally felt it necessary to bring the bulk of the tumour beyond the external genital orifice; and this necessity it is that limits its range of applicability. In some cases, for example, it may not be possible to do this; in other cases, the dragging required might be followed by serious pelvic inflammation, or it might invert the uterus.

Case 12.—*Fleshy polypus removed by écrasement.* M. R. aged 53, a widow for twenty years, was admitted to the chronic ward of the hospital, in September, 1858: she had two children by her marriage: is thin and much anæmiated: has had sanguineous discharges in considerable quantity from the vagina for upwards of four years, but during the last ten months they have become excessive. A moderately firm smooth polypus, the size of a small orange, lay in the vagina, its neck, which was very thick, being embraced by the os uteri. It was of purplish color and yielded blood freely when incised. She has had no uterine pain, but a good deal of bearing down and pelvic uneasiness. The hypogastrium is quite free of swelling and tenderness.

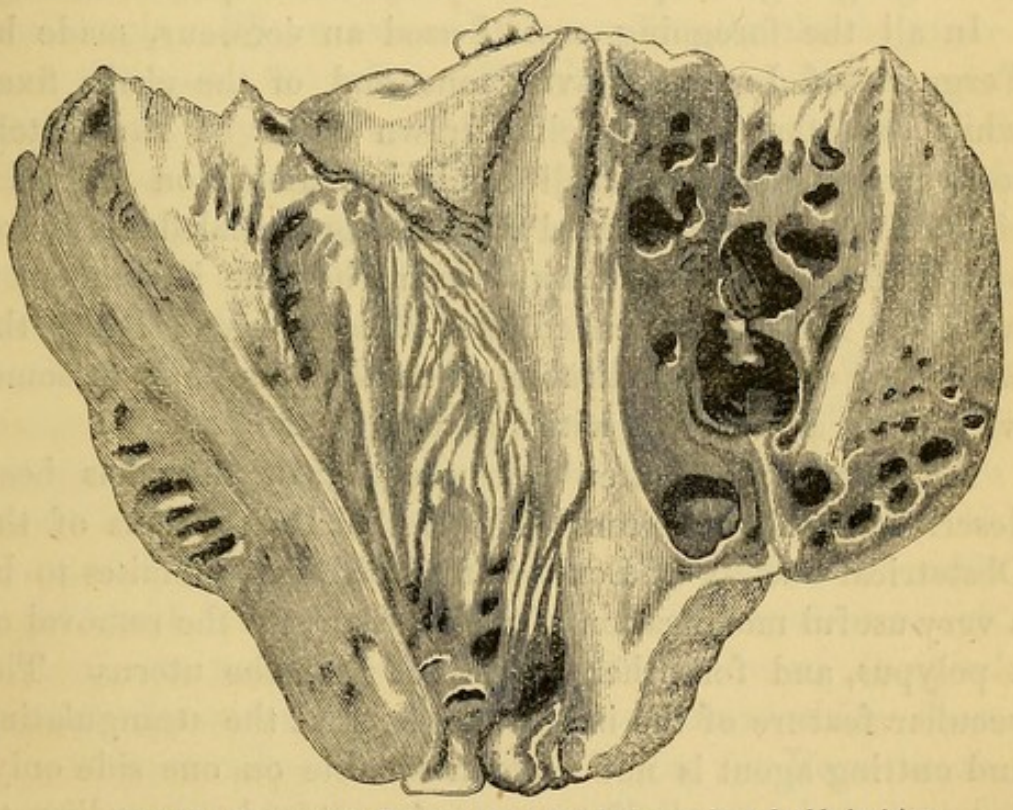
With the vulsellum already delineated (fig. 14) the tumour was pulled down so that its greatest circumference was brought beyond the vulva; this required some force and caused a good deal of pain. The chain of the écraseur was now carried round the neck, close to the tumour, and secured there, and slowly tightened till the operation was completed. In doing this it was necessary to keep the instrument behind and strongly pressed up against the perineum, so as to preserve the chain in the same axis with the handle. The dissevered surface of the growth was equal in extent to a half-crown piece. Very little pain and no hæmorrhage attended. In forty-eight hours the os uteri was nearly closed, and only a slight projection marked the site of the tumour. Her recovery was complete. Dr. Churchill happened to be present at this operation, and Drs. Guinness and Byrne, the Assistant Physicians, lent their aid in its performance. This tumour is preserved in the museum at the hospital.

In all the cases where écrasement was practised, the woman lay in the ordinary obstetrical position, viz., on the left side, with the thighs strongly flexed, the spine curved forward, and the buttocks well out over the edge of the bed. There was so much of similarity among them, that I shall only narrate, and as briefly as possible, two more of the cases in which the growth was extirpated by the écraseur.

Case 13.—*Fibro-cystic polypus: removal by écraseur.* This woman was sent to me by Dr. O'Grady, of Swords. She is aged 46 years, is married, and has had six children, her youngest being nine years old. Has had menorrhagia for two years; and during the last six months it has been so excessive that she is only three days in the month, free of sanguineous discharge. She has suffered no pain and her general health is good, but she is extremely blanched. The tumour has the size and shape of a turkey's egg, the smaller end above; is rough on the surface, moderately firm, and of a dull pink color. The peduncle is as thick as a man's thumb, and closely encircled by the os uteri. With a very slight degree of force the tumour can be drawn externally. She was admitted to the chronic ward of the hospital, and

on the 9th May, 1861, I performed écrasement, Drs. Halahan, and J. R. Kirkpatrick, (the hospital assistants) helping me. Nothing could be more satisfactory than the operation, or its results: not a drachm of blood was lost, and the woman was able to return home perfectly well in a few days. This polypus had nothing of the fibrous character. When laid open it was found to contain several almond shaped cavities, filled with blood, from the walls of which cavities there were some projecting thick villi, exactly resembling the carneæ columnæ of the heart, only much smaller. The accompanying woodcut (from an accurate drawing by Mr. Conolly) represents the remarkable appearances which the interior of this polypus exhibited.

FIG. 16.



Case 13.—Fibro-cystic Polypus of uterus, laid open by a double incision.

Case 14.—*Profuse hæmorrhage: small fibrous polypus: écrasement.* In the month of March, 1858, I saw, with Dr. M'Munn of Rutland-square, a widow lady, aged 34, who had lived in sterile wedlock for ten years. She had good health up to a year and a-half ago when she began to have at each menstrual period, a very inordinate loss of blood. On one occasion, a short time previously, the hæmorrhage was so great

as to cause serious apprehensions for her safety. She is very weak and anæmic; suffers much from head-ache, and the least exertion brings on distressing palpitation. Hæmorrhage has been going on pretty constantly for several days. The polypus was drawn beyond the vulva without pain or violence, and its pedicle severed by écrasement in a few minutes. It was of the fibrous kind, the size of a walnut, and weighed one ounce. Its stalk was traceable up to the fundus of the uterus. The hæmorrhages completely ceased from the moment of the operation, and her health was speedily re-established. She continues well up to the present time, and has married again. It is worthy of notice how suddenly and completely the hæmorrhage ceased after the operation; although going on up to the very time of its performance.

In all the foregoing cases I used an écraseur, made by Ferguson of London, having one end of the chain fixed while the other end is being drawn down. I have lately seen and employed a small handy instrument on the principle of the écraseur, armed with strong annealed steel wire, both ends of which are drawn down when the instrument is worked. I think it is called after Maisonneuve. It has the advantage of being applicable when the handle is at somewhat of an acute angle with the neck of the polypus.

An apparently better instrument than this, has been described by Dr. Braxton Hicks in the Transactions of the Obstetrical Society of London, for 1861, and promises to be a very useful modification of the écraseur, for the removal of a polypus, and for other operations upon the uterus. The peculiar feature of the instrument is, that the strangulating and cutting agent is not a chain flexible on one side only, but a rope composed of two or more strands, according to the required strength, of fine, annealed steel wire. A cord composed of this material is capable, he affirms, of being bent in any direction, and at any angle to the shaft of the instrument; and even when made up of twenty-five or thirty strands, it still possesses the flexibility of whip-cord.

I have already recorded cases (Nos. 3 and 11) where polypi were excised with the scissors. The following remark-

able history contains many points of considerable practical interest, but it is related here chiefly because the separation of the enormous growth was accomplished with the scissors.

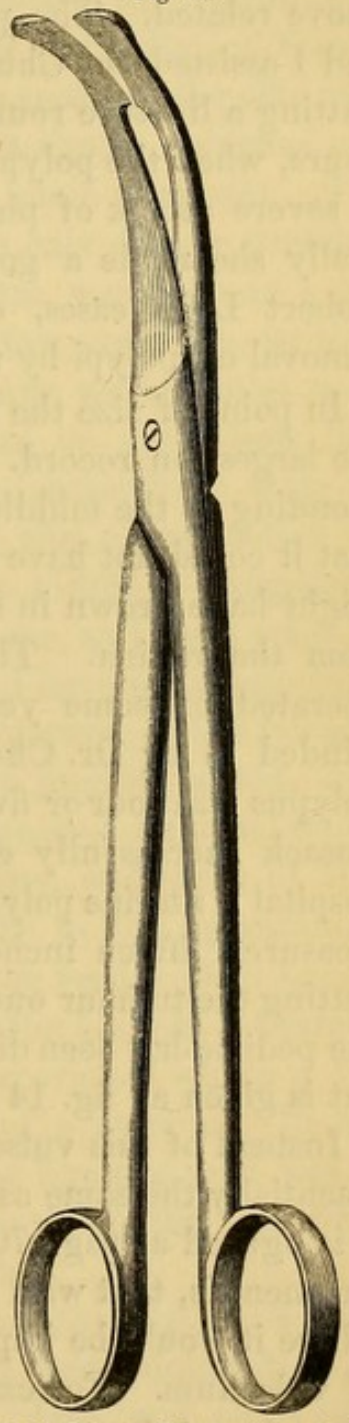
Case 15.—*Enormous polypus: deligation: hæmorrhage: excision.* A married woman, aged 50, who had five children, the youngest being ten years old, was admitted to the hospital, May, 1858, on account of some difficulty in making water. She had recently been an in-patient of a medical hospital where she had got hip baths for this ailment; but as they gave her no relief and were followed by some red discharge from the vagina, she went away to seek for relief elsewhere. The only points of importance in her medical history were, that for the *last two years she had no red discharge at all* from the vagina, though for some years previously she had excessive menorrhagia. There was a hard swelling in the hypogastrium, just above the pubes. Within the vagina was found a tumour tolerably firm to the feel, globular in shape, and reddish pink in color, filling nearly the entire pelvis, and extending up so high, that the os uteri, or neck of the tumour could not be felt without introducing the whole hand. Some blood flowed during this examination, and also when the surface of the tumour was scratched. With the concurrence of Drs. Churchill, Hardy, and Denham, who were kind enough to see this patient with me, I carried a ligature around the neck of the tumour, by means of Gooch's canula, and drew it very tight. This caused a considerable flow of blood, but no pain whatever. The canula was left in front. At seven o'clock, P. M., Dr. Guinness (hospital assistant) tightened the ligature, soon after which there came on an attack of hæmorrhage lasting for three hours, in spite of cold styptic injections, and leaving her exceedingly weak, insomuch that she had to get brandy and opium. At next morning visit (20th May) she was low and prostrate; with a rapid shabby pulse, and sick stomach. There was some return of the hæmorrhage, but it ceased on injecting a solution of tannic acid. The surface of the tumour is black. Drs. Hardy and Denham saw her with me this morning. The propriety of excising the tumour was discussed, but the great

height of the pedicle and the risk of reproducing the hæmorrhage, determined me to rest satisfied with tightening the ligature, which was evidently doing its work well. A sinapism was ordered to the epigastrium, hot jars to the feet, and she was given a liberal allowance of wine, beef-tea, &c. &c. The following morning (21st), Drs. Churchill and Hardy saw her, along with Dr. Guinness, as I was confined to my room from illness. There had been no renewal of the hæmorrhage, and her strength and appearance were greatly improved. On attempting to tighten the ligature it gave way, but the shortness of the piece hanging from the end of the canula showed that the pedicle was nearly cut through. With the aid of two vulsella, and by using great force, the tumour was drawn through the vulva, and Dr. Guinness cut the pedicle across with a curved scissors. The extraction of this enormous unyielding mass, caused as much distension of the perineum, and put the woman to as much pain as the birth of a full-grown child. It had a fibrous structure, was of a globular form, its circumference being sixteen inches, and weighed thirty-four ounces. No hæmorrhage followed, but she was much exhausted by the pain of the operation and of the *delivery*. Her recovery was slow in consequence of an attack of phlegmasia dolens in the left leg; but nevertheless, her restoration to health was perfect; and when I last heard of her, in September, 1861, she continued very well. The preparation of this polypus is in the museum at the Lying-in hospital.

A very remarkable fact in the above history was the woman's total exemption from hæmorrhage for the two years immediately preceding the operation. It is more than probable the tumour was in the vagina during the greater part of this period, and so far the opinion of Dr. West is corroborated, that the greatest hæmorrhages take place whilst the polypus is confined within the uterus. How this immense growth could have remained so long in the pelvis and yet have given rise to so little inconvenience or functional disturbance of the adjacent organs (except occasional dysuria) is truly astonishing. Under such circumstances an operation

necessarily attended with unusual difficulty and risk, almost seemed to be of questionable propriety. On consideration it was evident that any increase of its growth would cause the tumour to interrupt the functions of the bladder and rectum, and augment the difficulty and danger of its extirpation. Notwithstanding the objections to deligation, and the advantages of excision, I would, if a similar case came before me again, pursue the same course, viz., apply a ligature for forty-eight hours, and then practise excision with a curved scissors, or a curved polyptome, for I do not think the straight one would answer with so large a tumour. A very safe form of scissors for such operations as this, where the entire blades of the instrument have to be within the vagina, is here delineated (fig. 17). The *cutting* portion of the blades is confined to three quarters of an inch of their extremities which are probe pointed. The intervening portion of the blades, extending to the joint, has a round edge and therefore cannot cut.

Fig. 17.



Curved Scissors for excising uterine polypi: one-half the size of original.

The tumour appeared to be thoroughly strangulated by the ligature on its first application, so that the hæmorrhage which came on eight hours afterwards must have proceeded from the uterus. This is the only case I remember to have seen, where alarming hæmorrhage supervened on the ligaturing of a polypus; as a general rule all hæmorrhage then ceases. Dr. Gooch and Dr. Montgomery, however, have each mentioned an instance where a like occurrence took place.

The attack of phlegmasia dolens, which commenced with pain and tenderness in the left iliac region, was well marked and sufficiently severe to throw back her convalescence for some weeks. In only one other instance have I seen this disease to follow the extirpation of a uterine polypus. The circumstances of the case were very similar to those of the one above related. The polypus was a very large fibrous one, and I assisted Dr. Churchill (whose patient the lady was) in putting a ligature round it, which was left on for forty-eight hours, when the polypus was excised with the curved scissors. A severe attack of phlegmasia dolens supervened, but eventually she made a good recovery. In one or two of Dr. Robert Lee's cases, crural phlebitis took place after the removal of polypi by the ligature.

In point of size the polypus of Case 15 is perhaps one of the largest on record. Its circumference at the part corresponding to the middle of the pelvis was *sixteen inches*, so that it could not have increased its diameter here, though it might have grown in such a direction as to have protruded from the vagina. This actually had occurred in a case operated on some years ago at the Meath Hospital, and alluded to by Dr. Churchill, who says the diameter of the polypus was four or five inches, and its length fourteen. Mr. Cusack successfully extirpated from a patient in Steevens' hospital a uterine polypus stated by Dr. Montgomery to have measured fifteen inches and a-half in circumference. For getting the tumour out of the vagina, whether before or after the pedicle has been divided, the vulsellum, of which a woodcut is given at fig. 14 (page 168), answers admirably well.

Instead of this vulsellum I have sometimes used a screw, essentially the same as that for drawing a cork from a bottle: it is figured at page 70. The special advantage of this instrument is, that with it we can take secure hold of a tumour, where it would be impossible to seize it with any description of vulsellum. For example, if the os uteri be only partially opened, and the uterus closely applied to the tumour, it would be impossible to grasp it with a forceps or vulsellum; but if the tumour be at all tangible the spiral wire can be inserted.

I believe the use of the *ligature* alone, as a means of extirpating uterine polypi, is destined ere long to become nearly obsolete. Scanzoni restricts its employment to cases in which torsion is prevented by the thickness of the pedicle, and excision is rendered impossible in consequence of its being out of reach. As an auxiliary or supplemental means in conjunction with excision the ligature will continue to hold an important place. The high authority of Gooch, and the unqualified terms in which he spoke of the efficiency and safety of the ligature gained for it almost universal preference among obstetric surgeons, in these countries. This author goes so far as to say that "the only danger attendant upon the operation is, that the ligature may include a portion of the uterus." Within the last few years the writings of Dr. Simpson, and of Dr. West, have tended most materially to dispel this illusion, and also to show how little foundation there is for apprehending hæmorrhage from the operation of excision. Inclusion of the uterus within the ligature is not by any means the sole source of danger, nor is it even the principal source of danger, as I shall point out further on. Within the last five years I have not in any single instance removed a polypus with the ligature: in one instance, (Case 15), it was applied for a very limited period, when excision was performed. In ten instances I removed uterine polypi, by means of the ligature alone, and three of these women died some days subsequently to the operation,—I will not say in consequence of it,—the reader shall have an opportunity of determining that point for himself. Certainly these were the only cases in my experience where a fatal catastrophe followed the extirpation of a polypus. In each of the ten cases above mentioned, the ligature used was fine silk fishing line, carried round the neck of the tumour by means of Gooch's double silver canula.

Case 16.—*Polypus removed by ligature: death in eighteen days afterwards.* M. H. aged 38, was admitted to the chronic ward, 14th January, 1846. Had one child many years ago. Last September she began to have irregular hæmorrhagic discharges from the vagina, which have con-

tinued up to the present time. She is debilitated and of a sallow unhealthy aspect. A polypus the size of a large pear hung from the uterus in the vagina. She had no pain when it was handled, neither was there any tumour or tenderness in the hypogastric or iliac regions. On the 16th the ligature was applied, and when tightened no pain was complained of. On the fifth day the tumour came away; it was white and of a fleshy consistence. The only unfavorable symptoms at this time were, a rapid pulse and tympanitic belly. Five days after the removal of the polypus the pulse was still rapid; tongue rather dry and brown towards the centre; and a tendency to diarrhœa. In the right iliac region was a defined swelling about the size of an orange, and tender to the touch. A few days later a similar tumour formed in the left iliac region accompanied by abdominal pain; her nights were bad; the pulse constantly above 120; tongue dry and brown; total failure of appetite and increasing debility, so that she died on the eighteenth day from the removal of the growth. A careful autopsy was made fourteen hours after death. There were marks of general peritoneal inflammation, especially at the lower part of the belly. In each iliac region was an elastic tumour closely connected with the uterus, rectum, and parts adjoining; when opened these tumours were found to contain yellow inodorous puriform matter. The body of the uterus was somewhat elongated and its walls thicker than natural; the cervical portion was dilated and vascular up to the line of junction with the body and no further, indicating probably that the polypus had sprung from the cervix.

Case 17.—*Polypus removed by ligature: death some days afterwards.* C. S. a widow, aged 28, was admitted into the chronic ward of the Lying-in hospital, 20th November, 1855. Had one child, now eight years old, and subsequently four miscarriages. Three years ago she began to suffer from pelvic pain and uneasiness, and had been treated for uterine inflammation and ulceration. During the last twelve months she had more or less sanguineous discharge, and for the past six months it has been rarely absent. She looks sallow and very

anæmic, and suffers from constant pains and uneasiness in the uterine region. A large polypus, with a very thick pedicle, occupies the vagina, and the os uteri is felt very distinctly encircling its neck. On the 29th I put on a ligature with Gooch's canula; she experienced some pain when it was drawn tight. The vagina was syringed daily, after each time that the ligature was tightened; on these occasions she complained of a good deal of uneasiness. In five days the ligature and tumour came away; the polypus was as large as an orange, and weighed nine ounces; it was tolerably firm, and composed of fibrous and fibroid tissue, the latter bearing a close resemblance to the proper tissue of the unimpregnated uterus.

I made a vaginal examination after the falling off of the tumour. The os was very open; the body of the uterus felt large, and the entire organ seemed rather fixed and immovable in the pelvis. She complained of weakness and continued loss of appetite, and of a pain near to the anterior superior spine of left ilium. About the 5th December she had a slight rigor in the afternoon. She continued in an unsatisfactory state; the pulse rapid; no appetite; on one or two days she had some bilious vomiting, to which she said she was at times liable. On December 15, at 10 o'clock A. M., she got a weakness, succeeded by intense abdominal pain, and symptoms of collapse, with vomiting which soon assumed the coffee-ground character. In twenty-three hours from this time she expired, apparently from intense peritonitis, brought on by some internal rupture or perforation.

Autopsy.—Extensive recent peritonitis; enormously thick strong bands of lymph in the pelvis, marking the existence of former or chronic inflammation of the serous membrane; considerable swelling and induration in the left broad ligament, closely connected with the uterus; this tumour contained purulent matter; the rectum and uterus were cemented together; in the *cul de sac* of peritoneum behind the latter was a small aperture, that would about admit a goose-quill, and this opening communicated with an abscess which was a continuation of that to the left of the

uterus. The substance and interior of the uterus seemed perfectly healthy; a little roughness in the lining membrane of right cornu, was the only appearance that indicated the exact situation from which the polypus sprang. The most superficial examination of the specimen was sufficient to show that chronic inflammation had been going on in the neighbourhood of the uterus, for months at least, and that the immediate cause of the attack of fatal peritonitis unquestionably was the perforation of the retro-uterine abscess, and the consequent escape of some of its contents into the peritoneal cavity. The preparations of this polypus and abscess are in the museum of the Lying-in hospital.

Case 18.—*Polypus removed by ligature: death some days afterwards.* B. B. aged 40, a sallow dark complexioned woman, six years married, but never pregnant. For some weeks back she has had no freedom from a sanguineous discharge, of which she had had occasional recurrences for the last four years. In the vagina was a hard globular polypus, the size of a small orange, connected with the uterus by a pedicle about half an inch in diameter. No pain in handling this tumour, neither is there any fulness or tenderness of lower belly. With much ease the ligature was applied at 10 a. m. The same evening I tightened it without causing her any pain. Next morning I again drew the ligature, and when endeavouring to pull down the polypus, intending to divide its pedicle with a scissors, it came away. This was on 22nd December (1857). She presented no particular symptom on the 23rd, 24th, or 25th; except that the pulse was somewhat frequent, and she was disinclined for food. She insisted upon going home Christmas day. I did not feel altogether easy about this woman, so on the 28th I called to inquire for her. She occupied a most wretched, dirty, unwholesome lodging in Barrack-street. I found her with a tender tympanitic belly, and sick stomach. She said she had been much shaken in driving home from the hospital, and that the same evening the above symptoms had come on. I called again some days afterwards and was informed she was dead.

It is very probable that the result here would have been the same, even had the excision been performed, as there

were several circumstances which concurred in favouring an unsuccessful issue. In the first place, she was a very unhealthy subject, so much so that I would not have attempted any operation but that the pedicle was small and long. 2ndly, there was some puerperal fever in the wards of the hospital when this case occurred. 3rdly, she exposed herself too soon after the operation; and 4thly, the habitation she went to, was about the most squalid and insalubrious that can well be conceived.

Now let us investigate a little further *the results of deligation.* Above we see *three* deaths following ten operations, and these were the only fatalities among the thirty-four cases of polypus reported in the present memoir. A very high rate of mortality followed the use of the ligature in the cases reported by Dr. R. Lee, for of fifty-nine instances where the ligature was employed, nine of the women died, and two of these deaths occurred before the removal of the tumour was effected. Thus, then, out of sixty-nine cases of deligation, we find twelve deaths, or one in five. Dr. Lee gives thirty-five other cases where polypi were removed by torsion or excision, and among these there is no death. A very little research brings to light many other cases where a fatal result followed the ligaturing of uterine polypi. Dr. Sinclair has favoured me with the following particulars:—A large fat woman, aged 45, was admitted to the chronic ward of the Lying-in hospital in June 1853, under the care of Dr. Shekleton (then master), through whose kindness I had an opportunity of examining the case, and seeing the post-mortem appearances. The growth was enormously large, filling up the whole vagina; it was insensible; smooth on the surface, and by no means hard, but, on the contrary, rather doughy in consistence: the tumour seemed to grow from the interior of the uterus. On the 6th of June Dr. Sinclair applied a ligature around the neck of this tumour, the woman being at the time under the influence of chloroform. The ligature was retained by means of Gooch's canula: a good deal of difficulty was experienced in the operation, in consequence of the great bulk of the tumour, and the

distance of its pedicle from the os externum. The presence of the ligature did not seem to occasion any amount of pain or uneasiness. Strict attention was paid to the patient, and the vagina was daily syringed with tepid water. Nevertheless, a low kind of fever ensued, with a dry tongue and rapid feeble pulse; and in about three days after the operation the woman died, the ligature being still around the neck of the polypus. At the autopsy the ligature was found accurately applied around the pedicle, which was about the thickness of a man's thumb, and intimately identified with the tissue of the fundus uteri; there was not the slightest attempt at separation; the body of the organ was not at all enlarged; there was some slight ecchymosis of that part of the vagina with which the canula had been in contact; no inflammatory appearance was found in the belly.

In St. George's hospital, Mr. Babington lost a patient from phlebitis, soon after the removal of the ligature: a case of a a similar kind occurred to M. Blandin. Dupuytren met with eight or ten fatal cases, presenting symptoms of phlebitis. Mr. Abernethy states that he has opened the bodies of several women, who died from ligature of the uterus.

The late Dr. James Hamilton of Edinburgh, details in his "Practical Observations," the histories of three cases of death succeeding to the extirpation of uterine polypus by the ligature. In *one* of these, the patient died of violent enteritis; in the *second* case, death took place with symptoms which were considered to indicate the existence of enteritis; and in the *third*, death occurred rather suddenly and unexpectedly, with "delirium and an affection of the breathing." Dr. Simpson tells us he has seen a woman die with a ligature still fixed around the partially divided neck of a uterine polypus. Lastly, in the Cyclopædia of Practical Medicine, and the work of Boivin and Duges, will be found notices of four deaths from irritation and uterine phlebitis after deligation of uterine polypi.

Gooch considered that inclusion of the uterus within the ligature was the only source of danger connected with its use; and no doubt it is a source of considerable danger.

Nevertheless in none of the cases of which I have spoken, was this ascertained to have had anything to do with the fatal termination.

From a review of the cases given in this report, as well as of those recorded by Dr. Hamilton, Dr. R. Lee, and others, I think we are justified in drawing the following conclusions as to the bad or fatal consequences which may result from the ligaturing of uterine polypi.

1. That death may occur before the ligature has cut through the neck of the polypus, even in cases where this has not been unusually delayed, and where no part of the uterus has been included in the ligature.

2. That in some cases a fatal termination has been brought about by the supervention of peritoneal inflammation.

3. That in other cases uterine phlebitis, ending in death, has succeeded the application of the ligature.

4. That in not a few instances, the fatal issue has, apparently, been attributable to a kind of low toxæmic fever, or constitutional irritation.

5. That pelvic abscess, with its attendant dangers, is a result to be apprehended from the operation of ligaturing uterine polypi.

6. Phlegmasia dolens of one or both legs may follow the employment of the ligature.

7. It would seem possible for a patient to be carried off by tetanus after this operation. In the *Medical Times and Gazette* for 1861, Dr. Porter Smith mentions his having lost a patient in this way, on the seventh day after strangulation in the usual way with Gooch's instrument. The tumour, weighing three ounces and a-half, came away the sixth day. Death occurred in twenty-four hours from the time of seizure. It is much to be regretted that the account given of this important case is only of the most meagre kind.

It would appear that *the* effect to be most feared from the excision of uterine polypi is the direct and immediate one of hæmorrhage; whereas, in the operation of deligation, it is the secondary or remote effects which prove the source of

greatest peril to the patient. In the one operation the danger is present—in the other, the danger is future.*

It is not to be supposed, from the foregoing remarks, that I wish to pass a sweeping condemnation on the ligature. The opening observations on this means of extirpation sufficiently guard me from such an imputation. Indeed, a careful review of the unsuccessful cases, where the ligature was used, leads to the conviction that in some of them, at all events, the fatal result would probably have occurred under any mode of treatment; whilst in a large proportion of them the ligature was, perhaps, the only practicable mode of extirpation; and this of itself shows, that they were special cases, and should not be compared with the ordinary kind admitting of simple and easy removal.

I have never applied a ligature to the neck of a polypus when completely within the uterine cavity. This should be regarded as a most hazardous proceeding, and only justifiable where life is endangered by the profuseness of the hæmorrhages. One such case has come under my knowledge, and the lady died before the separation of the ligature from a low form of fever. The three only cases in which Scanzoni employed the ligature were of this description, that is to say, the pedicle was high up in the body of the uterus and beyond the reach of the fingers, so that we cannot be surprised that in two of them convalescence was seriously disturbed. The cases of benign polypus in which it would be *imprudent* to attempt the removal of the growth are very rare, I believe; whilst those in which it would be *unsafe* are extremely rare. One such case has come before me, and I shall relate it here, as it exhibited many points of interest.

Case 19.—*Fleshy polypus: death.* An unmarried woman, aged 40, was admitted to the chronic ward of the Lying-in hospital, August, 1861, on account of metrorrhagia of five months' continuance. She was thin, haggard, and much anæmiated; and her appearance, altogether, most unhealthy. The vagina was filled with a large pear-shaped tumour, whose

* Most of these observations on the fatal effects of ligaturing uterine polypi were published in *Dublin Quar. Med. Jour.* for May, 1856.

neck the os uteri embraced. On further examination, a considerable sized swelling was discovered in the supra-pubic region; and two more, of smaller bulk, but equally firm, in the left iliac region. Under manipulation there came away from the vagina a sanious fœtid discharge. Dr. Marion Sims, of New York, being a frequent visitor at the hospital about this time, saw this patient, and concurred with me in the propriety of abstaining from any operative procedure; more especially, as there was no hæmorrhage present. This decision was formed in consequence of (1) the broken down cachectic aspect of the woman; (2) the unhealthy discharge from the vagina; and (3) the evidence of disease in the body and appendages of the uterus. The above examination was made on a Wednesday: the following Friday she began to sink—got sickness of stomach, and expired in the course of some hours. I need hardly say, that had any operation been performed on this woman, her death would, indubitably, have been ascribed to it. On opening the abdomen, we discovered marks of very recent peritonitis, and in the lower part of the belly there was a quantity of brownish watery fluid. The uterus was much enlarged; several hard rounded tumours of various sizes stood out from its exterior, retaining their connexion with it by small pedicles. Each ovary was treble its natural size; and in the left one was a small rupture communicating with a cavity which seemed to have contained a sanious fluid. These appearances, taken in conjunction with the symptoms preceding death, leave no doubt but that the fatal peritonitis was caused by the rupture of this ovary, and the escape of its fluid contents. The os uteri was nearly fully dilated, and through it hung a very large moderately firm polypus, having its origin in the body of the uterus. A large fibrous mass was lodged in the anterior part of the uterus, greatly increasing its bulk, and causing extreme thickening and development of the uterine structure here. The results of this Case, and of Case 17, as well as of some others I have seen, clearly teach us to hesitate before determining on the extirpation of a polypus if it be associated with disease of the uterus or of the ovary, unless the

accompanying hæmorrhage be an undoubted source of great danger to the patient.

The diagnosis of *intra-uterine* polypi is, confessedly, a matter of extreme difficulty in a very large proportion of cases. If a woman have frequent metrorrhagia, independently of pregnancy or disease of the cervix, it is just probable there may be a polypus within the uterus; and this probability is somewhat strengthened, if we find the body of the uterus to be enlarged. But this hæmorrhage may be only a functional derangement, or may be dependent on the presence of a non-pediculated tumour; and the occasional presence of spasmodic uterine pains is no proof to the contrary. A fibrous tumour, developed in the substance of the uterus, may grow into its cavity, and extend downwards obliterating the cervix and appearing at the os. Cases of this description have come before me on several occasions. If a tumour appear at the os uteri, dilating it more or less, there may still be a difficulty in determining whether it be pediculated or not. Exploration with the finger or the sound will, perhaps, clear up the doubt; if these fail, we may gain some decisive information by seizing the growth with a vulsellum, and endeavouring to twist it round. If it have a pedicle we shall probably succeed in getting it to make some movement of rotation.

To ascertain positively the existence of a uterine tumour may sometimes require digital exploration of the uterine cavity; and to determine whether an intra-uterine tumour be a polypus or not can rarely be accomplished by any other mode of proceeding. In either of these cases it may be necessary to open up the cervix by incision, or with sponge tents, in the manner described by Professor Simpson, or with both. I may just remark here, *en passant,* that my own experience of sponge tents does not enable me to speak in unqualified terms of the ease or success attending their employment for dilating the cervix uteri. To retain the tent in its proper place is a difficulty that was met with in every instance. The conical form of the tent particularly recommended by Professor Simpson, though well adapted for

introduction is quite the opposite for retention. I have generally found it necessary to leave a small tampon in the upper part of the vagina, in order to prevent the expulsion of the tent from the uterus.

The length of time a polypus may take in making its way through the cervix and os uteri, is very uncertain. Many months or years may elapse, during which period the patient is exposed to the risk of recurring hæmorrhages, and is liable to occasional pains of a rather severe character and apparently depending on uterine contraction. Case 2, and the following one bear upon these remarks.

Case 20.—*Intra-uterine polypus: severe metrorrhagia: ultimate expulsion and deligation.* A married woman, aged 45, was received into a chronic ward of the Lying-in hospital in January, 1856, on account of frequently repeated and profuse attacks of uterine hæmorrhage, to which she had been subject for some years. Her bodily powers were greatly enfeebled and she was very anæmic. It was ascertained that the os uteri, was free from disease, but that the body of the organ was enlarged. She was in a low despondent state, and averse to undergo any kind of operation, so that after a brief stay she left the hospital. The next time I saw this woman was in March, 1857, when I assisted Dr. Churchill in ligaturing a polypus which had descended into the vagina a few days before, after some weeks of pain, and of frequent nausea. In forty-eight hours the polypus, which was the size of a pear, came away, and in the course of a few months this patient was restored to the enjoyment of perfect health. Cases like this are recorded by Gooch, Channing, and others.

Where a polypus has descended so low as to obliterate the cervix and partially open the os, it may remain there for a considerable time causing repeated hæmorrhages. Now if these discharges be immoderate, the plain course would be to draw down the polypus (with the vulsellum, or the spiral wire, already delineated), incising the os uteri if required, and to extirpate the growth. The os uteri will generally be found most relaxed, and the tumour most accessible soon

after an attack of hæmorrhage. A simple uncomplicated polypus may prove fatal by hæmorrhage or by pressure on adjacent organs.

Of the *fibrinous polypus* first particularly described by Kiwisch, and noticed by Scanzoni and West, I have met with one well marked example. Unfortunately I did not at the time note down all the details of the case, but the following so far as they go may be relied on.

Case 21.—*Fibrinous polypus: removal.* A married woman, aged 35 years, applied at the Lying-in hospital dispensary, in the month of September, 1861, on account of frequently recurring bloody discharges from the vagina. These had been going on for three months, but were at no time very profuse in quantity. On making an internal examination I found the os uteri open, and a soft fleshy substance, which had all the feel of an ovum, protruding from it. With the aid of a vulsellum I drew it away. This was effected without the use of force, the tumour not seeming to have any attachment to the uterus but simply retained by the constriction of the os. The body so removed was wholly devoid of fœtor, and was about the size of a large hen egg, but more elongated and pointed at the ends. It was tolerably firm but could be cut with a blunt instrument, such as a spatula. Its exterior was of a reddish yellow color, and within it was apparently composed of coagulated blood. It contained no vestige of a distinct membrane, nor any structure properly belonging to an ovum. This woman had had an abortion or a premature labor (I forget which) about four months previously.

I entirely agree with Scanzoni, in opposition to Kiwisch, that these formations are always to be regarded as sequelæ of abortion. How a clot of blood anything like so large as that found in the preceding case could form in the unimpregnated uterus, seems difficult to explain.

In proof that a coagulum may be formed in the uterine cavity, soon after parturition and be retained there for a considerable time before being discharged, I may mention the following case which fell under my notice last spring,

when temporarily in charge of the Lying-in hospital for Dr. Denham. Dr. J. R. Kirkpatrick was good enough to furnish me with the particulars, of which the following outline will suffice.

A young woman was delivered naturally of her first child the 19th February. Twenty-four days afterwards, there passed from the vagina without pain or any considerable bloody discharge, a very dense firm coagulum representing an exact mould or cast, even to the Fallopian orifices, of the uterine cavity. The annexed wood-cut shows its size and shape. Externally it had a mottled dark red and black color: and towards the centre it was of a lighter shade of red, and not quite so compact in structure. It presented no sign of decomposition. She had not shown any uterine symptoms from the time of delivery.

FIG. 18.



Case 21.—Dense coagulum forming a cast of the uterus: expelled three weeks after delivery,—*a a* corresponded to the orifices of the Fallopian tubes.

There can be little doubt but that some of the moles described by Musitanus, and many succeeding writers, were in their structure and origin identical with the fibrinous polypus. Rokitansky, in a paper recently published, has discussed the possibility of these fibrinous polypi occasionally originating in alterations of the retained membranes after abortion; and Professor Braun, of Berlin, is of opinion that a retained

placenta is often the cause of polypus-like bodies being formed within the uterus, and he brings forward in support of his views several cases and facts of a highly interesting and important kind. Closely bearing upon our present subject, and serving still further to illustrate it, was the case submitted to the Pathological Society of London, by Dr. John Ogle. The woman from whom the uterus, which was unusually large but well contracted, had been removed, died after an operation for femoral hernia. A quantity of dark clotted blood and shreddy material were hanging from the os. On passing the finger through this, a firm resisting substance was detected within, and on laying open the uterus, a large mass, supposed at first to be a fibrous tumour, was brought into view. It occupied the whole cavity, was more or less cylindrical in shape, of a brownish red color, smooth on its surface generally, and rounded at its lower extremity, but perforated for the passage of the shreddy membranous material which hung from the os uteri. The mass could with ease be lifted out of the uterine cavity, being free of all connexion with it except at its upper termination, where it was so closely united to the fundus that the one structure was apparently continuous with the other. When laid open by a longitudinal incision, a central cavity was found within, having firm walls of a light color. Nothing like a fœtal growth or germ was found, and no history could be obtained of the patient's antecedents. That the substance had existed in the uterus for some length of time appeared evident as well from the general appearances of the mass, the contracted and firm condition of the uterus, &c., as from the manner in which it was united to the fundus of the uterus. "There seems no doubt," Dr. Ogle remarks, "that the whole structure was formed by the retention of some part of the placenta and membranes of some fœtal growth:" and from this conclusion I cannot withhold my consent. Among the points of interest which this case presented, was "the complete immunity from anything like decomposition or septic action." This recalls to my mind the case of a lady I attended in a four months' miscarriage, who was just recovering, under the

care of Dr. Geoghegan, from a long and dangerous fever. The fœtus slipped away with little pain, but the placenta and membranes remained incarcerated in the uterus for *fourteen days;* and yet, none of these secundines when discharged exhibited the slightest trace of decomposition, or exhaled any unpleasant odour.

Of the cases where a polypus complicates parturition, I have said nothing in this memoir, as their consideration properly belongs to a treatise on pure midwifery. But it is a well established fact, that a polypus may, for the first time, give evidence of its existence soon after delivery, even where no suspicion had previously been entertained of its being present. This may occur even with polypi of large size. Under these circumstances the utmost care should be used in arriving at the diagnosis, as there would be great risk of mistaking a polypus for the inverted uterus, or *vice versâ*. We should call to our aid all the physical means by which to discriminate between the two diseases. As these have been described in the memoir on Inversion of the Uterus, they need not here be mentioned. The symptom which most commonly leads to the discovery of the polypus, is hæmorrhage, and it is this which may oblige our attempting the removal of the tumour before the woman has recovered from the puerperal state. I need hardly say, that unless the tumour give rise to some urgent symptom of this kind, we should not think of operating upon it for some weeks after delivery. Operative interference with the tumour during the puerperal state, may be attended with unpleasant or fatal consequences, owing to the increased size and vascularity of the uterus, as well as from the tendency then existing to inflammation or pyæmia. Thus, in a case where Van Doeveren twisted off a polypus during labor, the woman's life was in imminent danger during some days, from abdominal inflammation. Dr. Davis relates a case where the ligature applied to a polypus soon after delivery produced a fatal result; and in the case recorded by Mr. Fordham, the polypus was tied soon after delivery, and the woman died next day. (*Med. and Phys. Jour.* vol. xxvi.) The unfor-

tunate result in this instance, should not perhaps be imputed to the ligature. The urgent symptom which necessitated interference was violent forcing pain, and this could not have been allayed simply by deligation of the tumour; excision should have been performed. On the other hand many cases might be adduced in which the polypus was successfully tied or extirpated soon after parturition. In a case where a polypus was obstructing the descent of a six months fœtus, Pugh tied the pedicle and then excised the growth below the ligature. The child was born in half-an-hour, and the woman recovered well. Cloquet once detached a large polypus "by the simple action of his fingers," shortly after parturition, and with the most happy result: the woman recovered speedily. (Jacquemier.) Dr. Radford details a case where he detached a large polypus by torsion, from the interior of the uterus, before the withdrawal of the placenta. The patient recovered slowly, but this delay was owing, in a great measure, to the quantity of blood she had lost before Dr. Radford saw her. M. Guyot successfully removed a polypus by the ligature and excision, the day after delivery. It grew by a flat pedicle two fingers' broad, from the right side of the body of the uterus, and was as big as a fœtal head at term. He was induced to extirpate it thus soon after delivery, on account of pains in the groin and back. (Oldham.) The late Dr. Montgomery successfully ligatured a large polypus having a very thick neck, three weeks after delivery. On a few occasions, where the pedicle was slender, the uterine efforts alone were sufficient to detach the tumour.

Notwithstanding the array of evidence which might be brought forward in favour of the early performance of the operation, it still can hardly admit of question, that the safest and most prudent course will be to forego all attempts at extirpating the tumour as long as possible, or until the woman has recovered from the effects of parturition, when the attendant risk will be infinitely less. In furtherance of this object we must endeavour to keep the discharge in check by the diligent use of hæmostatics, cold, or the tampon, together with due attention to posture and quietness, or if

severe expulsive pains be complained of, opium by mouth or enema should be given, to try and subdue them. If, however, in consequence of the severity of the hæmorrhage, or of the pains, the removal of the polypus be determined upon, we have next to consider how this can best be done.

If the pedicle be small, torsion may be practised. The ligature should be the last resort; for, not only do the objections to it on ordinary occasions apply now with ten-fold force; but, to meet all the exigencies of these cases, the removal of the tumour should generally be immediate. No doubt the risk of hæmorrhage consequent upon excision is also considerably increased. If torsion be impracticable, we may then make choice between écrasement, simple excision, or deligation with excision. Beyond comparison, however, écrasement is to be preferred, when practicable, as combining the advantages of a rapid removal of the tumour with a very good—not, however, a complete—security against any troublesome bleeding from the stalk of the growth. That the amputation of a polypus, even by écrasement, may be followed by serious hæmorrhage, is well exemplified in the case already related at page 100.

TUMOURS OF THE VAGINA.

Tumours of the vagina are much more rarely met with, than those of either the uterus or the vulva. "For one example," says Professor D. Davis, "of tumours of this character that might take its origin from any part of the vaginal surface, there are at least ten which are indebted for their source, either to the neck or to the interior of the body of the uterus." No doubt there is a great variety of growths and tumours which make their appearance *in* this canal: for instance, cystocele, rectocele, prolapsus uteri, inversio uteri, polypus uteri, &c.; of these, however, I do not now speak, but only of such as spring from the walls of the vagina itself.

The different kinds of non-malignant growths which have their origin in the vaginal parieties, may be reduced under two general heads, viz., *fibrous tumours,* and *cystic tumours.*

Fibrous tumours of the vagina may be either pedunculated or non-pedunculated. This distinction here, as in fibrous tumours of the uterus, does not imply any pathological difference. It is due more to accidental circumstances than to anything else, and is only of importance in so far as it may affect the choice of means for the extirpation of the growth.

These fibrous tumours take their origin in the submucous cellular tissue, the muscular coat of the vagina, or in the cellular network external to it. Their structure is perhaps

more of a fibro-cellular than strictly fibrous nature. Those developed in the submucous cellular tissue are for the most part small; whilst the larger growths have usually a deeper origin. A few cases are recorded in which vaginal fibroids attained a considerable size. Kiwisch alludes to one such that weighed ten pounds; and Mr. Paget met with a case of a similar description in which the tumour protruded beyond the labia, in shape resembling an enormous pear, and having a diameter of five inches. M. Baudier published the description of a vaginal fibrous tumour weighing ten and a-half pounds; and Dupuytren presented, at one of the sittings of the Society of the Faculty of Medicine at Paris, two specimens of fibrous growths of enormous size, developed in the vagina.

Kiwisch asserts that the majority of the rounded fibroids connected with the vagina are primarily developed in the uterus. In some instances this may be true, and in some others we may find fibrous tumours in the womb coexisting with a similar growth from the vagina, but further than this the statement of Kiwisch cannot be received. Another German pathologist has affirmed that the structure of polypi of the vagina is the same as that of mucous polypi of the uterus. But this opinion,—evidently based on an inadequate number of observations,—is unquestionably incorrect, my own experience as well as that of others giving it the clearest contradiction.

The following histories would scarcely have been worth publishing, but that our knowledge of these tumours is, at best, fragmentary and imperfect, and the recorded examples of them extremely limited in number.

Case 1.—*Fibrous tumour growing from vagina: extirpation.* A healthy unmarried woman, about 30, was admitted into the Lying-in hospital in July, 1845. Ten months previously she began to notice a small tumour in the vagina, that had been slowly but steadily increasing in size. It always kept within the vulva till the last two months, during which time it had been generally external, and always so when she was up and exerting herself. On examination the

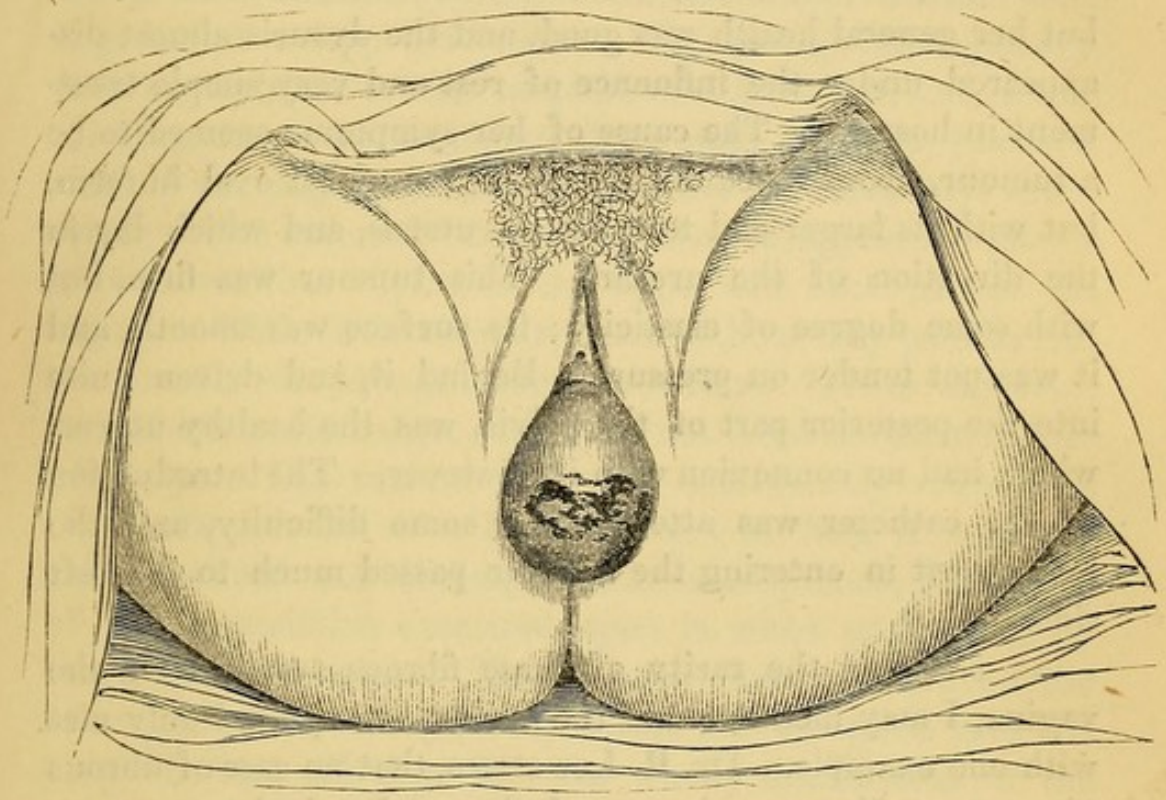
growth was found protruding; it resembled much in size and appearance the procident womb. The subjoined woodcut (fig. 19) shows the position and bulk of the tumour.

On careful exploration I ascertained that it sprang from the lower part of the anterior wall of the vagina, extending down to within a few lines of the meatus urinarius. It had no connection with the interior of the bladder or urethra. In structure it was firm and elastic, and admitted of very little displacement. It was two inches in length, and upwards of four inches in circumference, and had nearly the same thickness from base to apex. Between the tumour and cervix uteri the intervening portion of the vagina was healthy as was also the uterus itself. The investing membrane of this tumour resembled that of the vagina, except towards its extremity, where there existed some superficial ulceration. It had given rise to no annoyance beyond the inconvenience resulting from its bulk and situation. She menstruated regularly, had full control over the bladder, and suffered no actual pain.

Being satisfied that the bladder was not implicated in the formation of this tumour, it was determined to attempt its removal by the ligature. Dr. Charles Johnson (then master of the hospital) tightly encircled its base keeping clear of the urethra, with a ligature of silk fishing line, confining it by means of Levret's canula. On the third day the discharge was fœtid, and the ligature had formed a deep indentation all round. The ligature was tightened from day to day. On the sixth day the entire tumour was in a state of slough; a transverse burst or rupture had taken place in its right side, from which a good deal of blood flowed during the night. The pulse was rapid and she seemed very low and weak. On the 11th day the canula and ligature were removed, and so much of the slough was excised as could be conveniently reached. By cutting away a part of the slough from day to day, the whole was removed before long, and the occasional use of the warm bath, with unremitting attention to cleanliness, subdued all the swelling and inflammation of the labia. A very minute examination, three weeks after the

detachment of the ligature, could not detect any remaining portion of the growth. A slight incontinence of urine existed, but this became daily less troublesome, and in a few weeks altogether ceased. This woman was seen, some months after leaving the hospital, and she continued perfectly well, and without any return of her complaint.

FIG. 19.



Case 1.—Fibrous Tumour growing from the anterior wall of Vagina.

This growth was extremely firm and unyielding, so much so as to justify the opinion of its being of a dense sarcomatous or fibrous nature. After its vitality had been destroyed it appeared just like sloughing tendon, so strongly marked was its fibrous structure. It had nothing of a pedunculated character, but was, in fact, as thick at its base as near its extremity. The situation of this tumour was the same as that of the growth described by Sir C. M. Clarke, under the name of "thickening of the urethra," but it bore no other resemblance to it whatsoever.

Dr. West relates a case which bears a considerable resemblance to the foregoing. "She was 33 years old, had been married eight years, and a year after marriage had given

birth to her only child. She professed to have suffered habitually from some degree of dysuria, which had been aggravated after marriage; but in August, 1856, had suddenly become so much worse, after suppression of the catamenia from catching cold, that the use of the catheter became necessary, and had at intervals been required since. Her urine, on admission, was turbid and mixed with blood; but her general health was good, and the dysuria almost disappeared under the influence of rest and very simple treatment in hospital. The cause of her symptoms seemed to be a tumour, about three fingers broad, somewhat oval in form, but with its larger end towards the uterus, and which lay in the direction of the urethra. This tumour was firm, but with some degree of elasticity; its surface was smooth, and it was not tender on pressure. Behind it, and driven quite into the posterior part of the pelvis, was the healthy uterus, which had no connexion with it whatever. The introduction of the catheter was attended by some difficulty, and the instrument in entering the bladder passed much to the left side."

As showing the rarity of these fibrous tumours of the vagina, I may mention that the author last quoted only met with one example. Dr. R. Lee states, that no case of fibrous tumour, or fibrous polypus, of the vagina had ever come under his observation; and Dr. Churchill only records one instance at all analogous to the description of growth now under consideration.

In the museum of St. Thomas' hospital, London, I saw the preparation of a tumour similar in appearance and situation to the one that has been above described. The account of it is thus given in Jones' Catalogue of the museum: "Projecting from the upper wall of the vagina, a little posterior to the urethral orifice, there is a conical elevation nearly an inch in height and having a broad base, the long diameter of which measures an inch and a-half; it consists of simple areolar tissue, traversed by numerous vessels, and is covered with mucous membrane having a thickened opaque, corrugated appearance. From a woman aged 42. The growth had been

subjected to three operations for its removal. It recurred speedily after each."

Case 2.—*Fibrous polypus of vagina: écrasement.* A woman, aged 24, in the last month of her second pregnancy, was received into one of the chronic wards of the Lying-in hospital, on the 5th July, 1857, with a tumour at the vulva, and just beyond the vaginal orifice, the size of a small hen's egg, and of a deep livid colour. Dr. George Montgomery, then an assistant in the hospital, examined her, and found this tumour to be connected by a stalk with the posterior wall of the vagina. I did not see her for three days afterwards. The external tumour had then disappeared, but the growth was found lying in the upper and back part of the vagina. With little difficulty, and without any pain to her, the tumour was brought down into view. There was some fetid, bloody discharge, which did not come on till after her admission. The tumour was now considerably reduced in bulk, softened, and of a black colour; in fact, it appeared partially dead and decomposed, in consequence, I imagine, of the constriction exercised upon it, when protruding, by the sphincter vaginæ. This tumour first appeared on the afternoon of the 4th (the day before her reception into the hospital), and till then she was wholly unconscious of the presence of anything of the kind in the vagina.

Thinking it desirable that this sloughy mass should be got rid of as quickly as possible, her labour being so near, I put her under chloroform, drew down the tumour, and safely excised what remained of it with the écraseur. This was on the 9th: in three days afterwards she was up, and the discharge had nearly ceased. She went home, but returned on the 16th, supposing that her labour had come on. True labour did not set in, however, till the 20th, when she was delivered of twins. From the time of delivery she began to sink, and expired in thirty-four hours afterwards; so that an opportunity was thus afforded of determining with certainty the precise source of the tumour; that is, whether it grew from the vaginal wall, or from some of the structures external to this canal.

The cause of death was not very apparent; there was no peritonitis nor any traces of pus. The uterus, however, was very large, and its interior was dark-coloured and very fetid—almost gangrenous. The only vestige of the polypus was a superficial ulceration, the size of a sixpenny, low down on the posterior wall of the vagina, but there was no thickening or induration in this situation.

Case 3.—*Fibrous polypus of the vagina: extirpation.* A tall, healthy young woman, aged 23, in the seventh month of her first pregnancy, suddenly felt something to prolapse from the vulva, whilst she was in the act of running. This caused her much pain and uneasiness, and compelled her to seek advice. Upon examination I found a firm fleshy tumour, of a deep red colour, protruding beyond the ostium vaginæ, but attached by means of a flat pedicle to the posterior wall of this canal, and about midway up. This tumour was considerably larger than a hen's egg, did not bleed when handled, and was not painful to the touch; and the patient affirmed that she had been wholly ignorant of its existence till the present time. Without much trouble I returned it into the vagina, and it slipped into the pouch or depression ordinarily existing in the posterior wall, but which, in the present instance, was much enlarged. This gave her much ease; but the tumour prolapsed again as soon as she got up and went about.

Deeming it advisable that this polypus should be extirpated as soon as possible, in consideration of the woman's advanced state of pregnancy (for it might have seriously interfered with parturition), she was removed into one of the chronic wards of the Lying-in hospital, and Dr. Shekleton (then master of the hospital) applied a ligature around the pedicle. On the fourth day there was a good deal of vaginal soreness, and some fetid discharge. Only a small portion of the pedicle remained uncut; this was dividedwith a scissors, and the tumour removed. She left the hospital some days afterwards perfectly well. At the full term of pregnancy she returned to the hospital in labor, which proceeded most favourably, and the woman made an excellent recovery.

The many points of resemblance between these two cases are very striking. That the tumours were each of a fibroid nature and had a well marked pedunculated shape, was obvious enough; and that they sprang from the vaginal wall alone was put beyond question in one of them, and admitted of little doubt in the other.

A very good example of a vaginal fibrous polypus is given by Scanzoni. It is worthy of note, too, that the troublesome symptoms this tumour gave rise to, dated from the time of the woman's labor; which would look as if it had received some mechanical injury at that time. He writes:—"We have ourselves excised with the scissors, a polypus of the size of a hen's egg, which was attached by a very small pedicle to the right vaginal wall; the microscopic examination showed fibres of conjunctive tissue and muscular fibres; it had generally all the characters of a fibrous polypus. The patient had suffered for eighteen months with flows of blood and sanious matters from the vulva, accompanied by a disagreeable sensation of pressure in the pelvis, frequent desire to urinate, and troubles in defœcation; all the symptoms had supervened for the first time some time after a regular accouchement. Upon excision (with a scissors) there was a violent hæmorrhage, which however ceased after the application of a tampon of lint dipped in a solution of the perchloride of iron."

Cystic tumours of the vagina, are perhaps of less frequent occurrence than the tumours of a fleshy or fibrous kind, which we have just been considering. Before making any remarks upon them, I shall describe one or two of the instances that have come under my notice.

Case 4.—*Cystic polypus of vagina: puncture.* A healthy woman, aged 23, was admitted, in labor of her second child, 23rd January, 1861. On examining *per vaginam*, an oblong body was found attached to the back wall of the canal, about midway between the *ostium vaginæ* and the os uteri. This tumour was fully an inch and a-half long, rounded, and as thick as a man's index finger. It contained fluid, was connected by a small pedicle, and could be brought down par-

tially beyond the vulva, so as to be rendered visible. The wall of the cyst was nearly transparent, of a whitish colour, and evidently very thin. As it was plain this tumour could not interfere with parturition it was let alone for the present. Her labor was easy, and her recovery good. On the ninth day, and before leaving the hospital, I examined her again, and found the tumour in the same state as before. Upon opening it with a sharp pointed bistoury three or four drachms of transparent gelatinous fluid escaped, and the cyst immediately collapsed. The puncture caused her some little pain. This tumour had given rise to no symptom whatever, and the woman was wholly unaware of its presence till it was discovered by Dr. H. Halahan (the Assistant Physician,) during her labor.

The extreme thinness and transparency of the wall of this cyst would seem to show that it was an unusually large specimen of what Huguier calls a "superficial follicular cyst," or a cyst produced by the obstruction and enlargement of one of the superficial layer of mucous follicles belonging to the vaginal canal.

Not unlike to the above case was one that fell under the observation of Drs. MacSwiney and Churchill, of this city, and which is thus described by the latter: "The tumour had not been observed by the patient or nurse until Dr. MacSwiney, making an examination at an advanced period of labor, found it at the upper part of the vagina, underneath the symphysis pubis, protruded before the head of the child. As no catheter could be passed, on account of the pressure of the child's head upon the urethra, it was impossible to make sure that it was not the bladder prolapsed and protruded, and therefore Dr. MacSwiney very properly hesitated to puncture it, although he had no doubt it contained fluid. The labor was protracted for some hours, apparently by this obstacle, but at length a living child was safely delivered and the mother recovered well. On again making an examination, a pear shaped tumour was found protruding through the orifice of the vagina, lying along the under surface of the urethra, from just below its orifice to near its insertion into the bladder. It was covered by the mucous membrane

of the vagina, and evidently contained a fluid. Its length was at least two inches, and the diameter of its larger end one and a-half." A month after delivery a large triangular flap was cut out of the tumour, which contained a glairy fluid, the sac was filled with dry lint, and in a week scarcely a trace of it remained.

Case 5.—*Cystic tumour of vagina: puncture.* An unmarried woman, aged 24 years, in the enjoyment of perfect health was surprised by the sudden appearance at the vulva, of a tumour which had descended from the vagina. It was the size of a large walnut, of a pinkish color like that of the vagina, and had a perfectly smooth surface. On careful examination it was found to take its origin from the upper and anterior wall of the vagina just where this is reflected to the cervix uteri. It manifestly contained fluid, but the walls of the cyst, unlike Case 4, were rather thick, as though composed of a mucous and muscular coat. It could easily be replaced within the vagina but came down again when she strained or forced.

I saw this woman at the Coombe hospital where she was under the care of Dr. Kidd. He punctured the tumour with a fine trocar and drew off some drachms of a perfectly limpid colorless fluid, which coagulated very slightly on the addition of strong nitric acid. This woman assured us that until the tumour prolapsed she had not the slightest suspicion of its existence, as she never had any pain or uneasiness in the genitals, nor any discharge from the vagina, except the catamenia, which were always regular.

It is highly probable that many of these vaginal cystic tumours originate in obstructed mucous follicles. Dr. Heming proved this to be the case in two instances where he had an opportunity of making a minute examination of the tumours after death. More recently M. Huguier, in an able memoir read before the *Société de Chirurgie* of Paris, has espoused the same view and supported it by careful anatomical and pathological researches. He finds that the vaginal mucous membrane, like that of the uterus or the mouth, is furnished with two orders or sets of mucous follicles, a superficial and

a deep. The former of these are provided with an orifice or a small excretory duct: the latter are situated in the cellulo-muscular or dartoid wall of the canal, and are devoid of any discoverable excretory outlet. The superficial follicles are most numerous towards the orifice of the vagina (not in the vulva, however); whilst the others are chiefly confined to the upper two thirds of the canal. Now, according to this observer, one (or sometimes two), of either of these sets of follicles may become enlarged and thus produce a cystic tumour or tumours, the characters of which will be in great measure dependent upon whether the affected follicle be one of the superficial or of the deep set. In accordance with this, he describes two distinct varieties or kinds of vaginal cystic tumours. But it is very doubtful whether this distinction always admits of clinical application; or, in the cases where it is recognizable, whether any practical advantage is to be derived from it.

Some of these vaginal cysts contain a clear glairy fluid like mucus, and others a limpid straw-coloured serum. Judging from my own, and others' experience, cystic tumours are met with much more rarely in the vagina than at the vulva. Scanzoni is of opinion, that the vagina is only exceptionally the seat of cysts; and, up to the time of the publication of his "Practical Treatise on the Diseases of the Sexual Organs of Women," now about six or eight years ago, he had only met with one such case; in it "the tumour, of the size of a pigeon's egg, which projected into the vagina, appeared to be very slowly developed, for the patient related to us that she was suffering for many years with a very disagreeable sensation, located in the place of the cyst, every time that she indulged in coitus. The pains insensibly had so augmented that the satisfaction of the sexual necessities became completely impossible. By the touch, we recognized in the anterior and right part of the vagina a very extended tumour, but still yielding to pressure, and giving a certain sensation of fluctuation; the contact of the finger provoked severe pains therein. The introduction of the speculum was also very painful; it permitted us to see in the place of the

cyst, and its immediate neighbourhood, a highly colored redness of the mucous membrane, which was, at the same time, the seat of a sufficiently abundant hyper-secretion. We thrust a pointed bistoury into the wall of the cyst directed towards the vagina, then we made an incision nearly an inch long; there flowed forth about an ounce of a serous fluid clear as water." Injections of a solution of nitrate of silver were made into the sac during a fortnight afterwards, by which means its perfect obliteration was effected.

Dr. West's experience enables him to furnish only two examples of "cysts projecting into the vagina;" and in one of these cases the tumour sprang from the under surface of the right nympha. M. Murat has reported "three cases of collections of serous fluids within the proper substance of the parieties of the vagina. The tumours thus formed were in some degree isolated and pendulous in the vagina. Their envelopes were thin and slender, and in size they exceeded that of a goose's egg. The contents of all of them were discharged in consequence of their exposure to the strong pressure incident to the act of childbirth. Their removal, thus incidentally effected, proved in every instance a permanent cure."

In Case 4, the cyst-wall was very thin, smooth, and of a whitish colour; it did not seem to have any investment from the mucous membrane of the vagina. In other cases, however, the cyst-wall possesses more thickness, and is evidently covered by the mucous membrane, and, perhaps, too, by some of the muscular fibres of the vagina.

Scanzoni devotes a separate section to "mucous polypi" of the vagina, and does not include them among the cystic tumours. There seems to be no good reason for this distinction. He gives no example of a mucous polypus, and his description would apply equally well to the cystic growth. I have, therefore, made no allusion to these mucous polypi.

The clinical histories already given will be sufficient to show that vaginal tumours are generally unattended by any *symptoms*, properly so called. They may develop themselves, and even attain a considerable size, without the patient being

at all aware of their existence. In this respect they form a contrast to uterine tumours, especially polypi, which cause more or less functional derangement, and very constantly give rise to hæmorrhages, even of dangerous amount. When vaginal tumours do produce any local annoyance, this is merely a mechanical effect of their bulk. The patient may have a sense of weight or bearing down, or some inconvenience is felt in coition, or defœcation, or micturition. The unexpected appearance of the tumour at the vulva has, in not a few instances, been the first intimation the patient has had of any deviation from the normal condition of these parts. In a still larger proportion of cases, the tumour has not been discovered till after parturition has set in. Huguier supposes that the changes and lesions of pregnancy and parturition most frequently produce the cystic tumours, "since out of thirteen patients, at least twelve had seen their disease to develop itself during gestation or after delivery."

It does not seem that the presence of a vaginal tumour, whether fibrous or cystic, causes any considerable mucous discharge, except in a limited number of instances. And the occurrence of hæmorrhage must be looked upon as an extremely rare accompaniment of such tumours. It is true, Mr. Paget has reported a case, supposed to be one of vaginal fibrous tumour, where hæmorrhage was a very urgent symptom. He removed this tumour, which was situated high up in the vagina on its right and anterior aspects. It was the size of a hen's egg, and situated "close upon the os uteri, and pressing against the uterus." For two years this patient had suffered under profuse losses of blood, and for the three months immediately preceding the operation, the sanguineous discharge had gone on without any cessation. Although Mr. Paget expressed a strong opinion that this tumour was not of uterine origin, yet I feel very much inclined to think that it had been developed in the lower and outer part of the cervix; and there is no fact in the history of the case, as reported by Mr. Edlin, to contradict this supposition. The woman's age was 47, she was married, and had borne three children at the full time.

With so few and such dubious symptoms, it is obvious that the diagnosis of a tumour, growing from the vagina, can only be made by digital examination. In this way, with moderate care and tact, its recognition can always be established. Its point of attachment having once been ascertained, the remaining difficulties are seldom considerable: the diagnosis then generally lies between it and a prolapse of the vaginal wall (either as rectocele or cystocele), herniary protrusion, chronic abscess, the intrusion of a tumour growing from some adjacent part, or a fungous growth. Whether the contents of the tumour be solid or fluid is seldom hard to make out; but in obscure cases the exploring needle comes effectually to our aid.

Pelletan, in his *Clinique Chirurgicale*, relates a case which so well exemplifies some of the difficulties of diagnosis, that no apology is necessary for quoting it: "A woman, aged 24 years, presented herself in 1807, at the Hotel Dieu, to be treated for a tumour which incommoded her by its pressure on the vagina and rectum, obliged her to walk with her thighs apart, and embarrassed her in her daily occupations. The tumour occupied the left and posterior part of the vagina, and was covered by its mucous membrane. It was round, and as large as a pullet's egg. Coughing seemed to increase its size, and pushed it towards the orifice of the vagina, where it presented externally when the patient sat for some time; it could be easily pushed up internally, and it could be felt by a finger in the rectum. This tumour was free from pain, but interfered with the free discharge of urine and fœces. Many thought this tumour was a hernia; they were led into this mistake by the softness of its tissue, and the facility with which it could be pushed up, though not made to disappear altogether. M. Pelletan judged differently; he could trace its entire circumference; and, by carrying two fingers beyond it, he could draw it down to the vaginal orifice: by this he satisfied himself that it had no continuity with the neighbouring parts. Its softness, he thought, was due to fluctuation; and its mobility, to the circumstance of the fluid being contained within a cyst covered

by vagina, and immediately invested with a loose cellular tissue. An incision, two inches long, made through the wall of the tumour, gave exit to half a glass of a greyish white puriform fluid, and the tumour disappeared." Within three weeks the woman was quite well.

The *treatment* of these vaginal growths need not occupy very much space. Of course, where the tumour, be it cystic or fibroid, is small, not increasing in size, and causing no inconvenience or unpleasant symptom, simple prudence would suggest a palliative or expectant plan of treatment, in preference to any attempt at extirpation. If the tumour be a fibrous one, and pedunculated, its removal may be accomplished with the scissors, the écraseur, or the ligature; or this last followed in twenty-four hours by excision. Case 3 was successfully treated by the ligature without disturbing gestation. In Case 2, the tumour had undergone a sort of natural strangulation, after which its complete detachment was effected by écrasement. A fibrous tumour, though not pedunculated, may still be sometimes extirpated by the ligature, as in Case 1; or the écraseur might be applied round its base. Should the woman be pregnant when the tumour is discovered, this will form an additional and important element in the question of extirpation. If, from its size or situation, the tumour be likely to interfere with parturition, such would prove a cogent reason for removing it at once; if no such interference, however, is to be apprehended, it will be advisable to defer operating till the patient have recovered from childbed.

Should the tumour have an extended base, deligation or écrasement may scarcely be practicable, and excision might be attended with very great risk. It is to such cases as these, I imagine, that the remarks of Scanzoni apply: "It has been proposed to extirpate the fibrous tumours of the vagina. This operation has even been sometimes executed; still we think that we should not have recourse to it, except when we can be assured that it is well circumscribed and entirely independent of the organs situated more deeply in the pelvis. But as in these circumstances, the fibroid will not easily provoke accidents sufficiently pressing to justify so grave and

dangerous an operation, it will rarely be decided on." If the tumour be circumscribed, plainly imbedded in the vaginal wall, and without any deep connexions, its removal might be accomplished by enucleation. In this way Mr. Paget successfully extirpated, from the summit of the vagina, a fibrous tumour weighing four ounces and a half, and the size of a hen's egg. It was drawn down with a vulsellum beyond the ostium vaginæ; the mucous membrane and vaginal structure covering the tumour were then cut through, and the fibroid "shelled out." The operation seems to have been performed with ease; there was no loss of blood, and the patient recovered satisfactorily.

The radical cure of a cystic tumour may be accomplished in different ways. If it grow by a neck or pedicle, this may be at once cut across with a scissors or knife, at a little distance from the vaginal wall. Simply puncturing the cyst and letting out its contents may be followed by a cure, though so happy a result is rare. In addition to tapping and excising the cyst, it is generally necessary to remove a portion of it, or to excite inflammation of its internal surface by the application of nitrate of silver, strong tincture of iodine, or nitric acid, or by dressing it with dry lint. Any one of these will generally be found successful.

I have, hitherto, said nothing upon the *carcinomatous* diseases of the vagina, because no well-marked and undoubted instance of primitive cancer of this canal has fallen under my notice. Several cases of carcinoma affecting the vagina, I have, from time to time, seen and examined; but, in all of them, the disease appeared to have been but an extension from the uterus, or the vulva. That the vagina, may, however, be the primary seat of malignant disease cannot be questioned. Dr. Charles West is of opinion, that the rarity of primitive cancer in this part has been exaggerated. He refers to six cases of vaginal cancer coming under his own observation, in which the uterus, at all events, was perfectly healthy; whether the vulva was equally free is not stated.

The disease generally commences by an extensive deposition of cancerous matter in the substance of one or both

walls (*i. e.* anterior and posterior) of the vagina. This gives rise to thickening, induration, and more or less contraction, or "stricture," of the canal, just as occurs in the case of the rectum when it is invaded by carcinoma. It may, however, begin at one point and spread thence; and this is the course which the epithelial variety is observed to take.

Of thirteen cases of vaginal cancer noted by Dr. West, the disease had a fungoid character in ten instances, and in three it was epithelial.

Married women, who have borne children, and who have passed the menstruating period of life, are more exposed than others to the disease. In these respects it bears the closest resemblance to uterine cancer.

Pain is a very constant symptom when the disease has become fully developed. Sometimes a distressing pruritus of the vulva had annoyed the patient for a considerable time before any pain was experienced, or before any suspicion existed of the vagina being the seat of disease. On many occasions I have known this pruritus of the vulva to be among the earliest symptoms of cancer of the womb.

There is generally some discharge of a thin consistence and yellowish color, or it may contain an admixture of blood, though this seldom makes its appearance till after ulceration has taken place. The discharge is rarely devoid of that peculiar sickening odour, so characteristic of cancer.

Unless, perhaps, in its earliest stage (when it very rarely comes under the notice of the practitioner), there can be no difficulty in the way of diagnosis. But this supposes a digital examination to be made in every instance; and also, that the examiner be perfectly familiar with the feel of the healthy vagina. In its ulterior progress this disease presents nearly the same general features as uterine cancer. The deposition of carcinomatous matter will extend to adjacent parts, and may involve the rectum or the bladder, or both these viscera, and be followed by perforation, though this result would seem to be rare; and fortunately so, as its occurrence adds very considerably to the miseries of the unhappy patient.

As to curative treatment there is absolutely nothing to be said: cancer, when affecting the vagina, not being more within the reach of art than cancer of the uterus or of the rectum. In one case of epithelial cancer of the vagina, Dr. West saw very considerable improvement to follow the free application of the acid nitrate of mercury. It diminished the previously profuse, offensive, bloody discharge, and was followed by a mitigation of the back-ache, and an amendment of the general health. "Three or four applications of the acid produced the complete cicatrization of all but just that part of the disease which affected the roof of the vagina. In that situation, however, the application of the caustic was extremely difficult, and there the mischief spread. Deposits took place, thickening the vaginal wall; the granulations grew large, bled more readily, and extended close up to the side of the cervix uteri, between which and the diseased structures an interval no longer existed; and thus treatment was baffled, hope was lost, and we were driven once more to recognize the very narrow limits that circumscribe our power to heal. The patient left the hospital, and died painfully a few months afterwards; and I do not know that her life could be said to have been prolonged by the local treatment; though, unquestionably, it was for a short time brightened by a hope which, though illusive, yet cheated her only of some suffering and some sorrow."

In the way of palliative treatment, a good deal can be done towards mitigating pain, which is the principal cause of distress, and in ameliorating some of the patient's other sources of annoyance and discomfort. It is unnecessary, however, to point out here, the very simple means by which these plain indications are to be fulfilled.

TUMOURS OF THE VULVA.

UNDER the term *vulva* is comprehended the mons veneris, clitoris, nymphæ, labia, meatus urinarius, and the intervening spaces. The diseases of this region are tolerably numerous. I propose to speak only of the *growths* or *tumours* which may become developed here—in other words, the surgical diseases to which these parts are liable; omitting, however, all notice of primary syphilis—a disease generally referred to the domain of pure surgery.

Of these various growths, the following classification, though having no pretension to scientific exactness, may, nevertheless, be found of practical utility, and sufficiently comprehensive for our present purpose, viz:—

1. Warty and hypertrophic tumours.
2. Fibrous and fatty tumours.
3. Cystic tumours.
4. Vascular tumours.
5. Cancroid and carcinomatous tumours.

The labia may be also enlarged from effusions of blood or serum, from the presence of an abscess or of a herniary protrusion, or from elephantiasis. In the present chapter, however, I purposely omit all reference to these. The first four cannot properly be called "growths," and elephantiasis is not met with in this country. For the purpose of correct diagnosis, however, it is needful to remember the above causes of enlargement.

Warty excrescences may grow from any part of the vulva, but they most commonly appear around the orifice of the

urethra, or of the vagina; in this latter case, they look like elongations of the corpora myrtiformia. They are usually found in clusters, but sometimes occur singly. Oftentimes three or four grow by a common root. Their color is nearly white, and their structure tolerably firm. By the majority of writers these growths are considered to be developed under the influence of primary or constitutional syphilis; and all my experience, up to the present, leads me to believe that they are invariably of syphilitic origin. Certainly, I have never seen *long* warty excrescences in a woman who had not had venereal disease at some former period of her life; and Sir Charles Clarke says nothing to contravene this. He observes, "It is not necessary to the formation of these tumours, that the part should have been the seat of any syphilitic complaint, for they may arise in parts which have never been so affected." Dr. Churchill is of opinion, however, that syphilis is not the exclusive cause of warts on the vulva. These growths are seldom the seat of pain, but they cause more or less local irritation and mucous discharge; and should they be of large size, become a source of much inconvenience. Their identification, when exposed to view, can never be attended with any difficulty; I really do not know with what they could be confounded.

At least two varieties of warts are met with on the vulva, presenting differences in situation and external appearance. One of these is the true warty excrescence, the verruca, or thymion of Celsus. It is very similar to the warts which appear on the hands or fingers, except that it frequently has a pedunculated shape; the stalk or neck having a smaller diameter than the body of the growth. When of large size, they are apt to become fissured at the top, and to bleed if scratched or otherwise hurt. They have the colour of the surrounding skin, and do not yield any discharge. The greater labia and adjacent common integument are the parts from which these warts generally spring. Warts of the other kind or variety grow from the vestibulum, meatus urinarius, carunculæ myrtiformes, or some of the parts ordinarily concealed within the vulvar sinus; and this circumstance may, perhaps, account

for their difference in character and appearance from those just described. Their structure is firm, but remarkably pale in colour, and semi-transparent, so as to bear much resemblance to the white muscular tissue of fish.

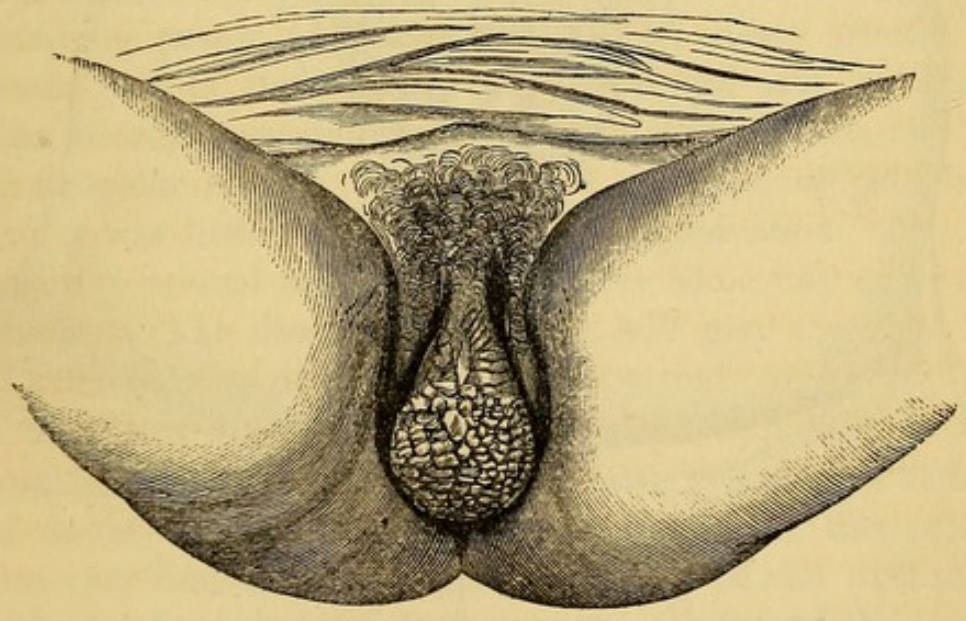
Patients are generally anxious that these warts should be removed. For this purpose various astringent and caustic applications have been recommended, and if the warts be small, these may prove successful. Keeping the parts very dry and dusting them frequently with prepared chalk, or some other absorbing powder, will occasionally remove them. But when they are of any moderate size, we must resort to extirpation by knife, scissors, or ligature, as this is the only mode of cure. They bleed very freely when cut, and hence I have generally used the ligature, tying them very tightly with fine silk. Small ones may be snipped off with a scissors, and solid nitrate of silver, nitric acid, or the actual cautery (a red hot knitting needle), being used to stop the hæmorrhage if considerable. Should two or more grow from a thick stem or base, this might be divided with the small écraseur of Maisonneuve, or that of Chassaignac. When cut off on a level with the surrounding mucous membrane, they are not likely to be reproduced; but if a portion of the base or stem be allowed to remain, this is very apt to throw out fresh shoots or processes, to the great annoyance and disappointment of the patient. With a view to prevent their recurrence after excision, some surgeons advise the application of the *fer rouge* to the raw surface immediately. Others make use of some strong astringent solution. If the growth be wholly extirpated, however, there is but little likelihood of its reappearance; such at least has been my experience.

An unnatural *hypertrophy of the nymphæ, clitoris*, or, more rarely, of the *labia majora*, is not unfrequently associated with the warty excrescences of which we have just been speaking; and this concurrence suggests the high probability of their having a common cause, viz., venereal taint of the constitution. These enlargements, however, may and frequently do occur where no warts are present; and, unquestionably, may arise without syphilitic taint of the con-

stitution. In nearly all the cases I have seen, however, the patient confessed to having previously had venereal disease. The surface of the tumour, in all these cases, was more or less fissured and rugous, as is shown in the annexed woodcut (fig. 20). The history of the case, from which this was obtained, is as follows:—

Case 1.—*Syphilitic hypertrophy of left nympha.* A young woman, of rather questionable character, was confined in the Lying-in hospital of a premature child—her first, she said. It was born dead, and far advanced in decomposition. The left nympha was about the size of a large turkey egg, its surface of a dark purple colour, and deeply fissured. The great bulk of the part was owing, in some degree, to œdema, which disappeared soon after delivery, leaving the tumour more dense and rugous, though considerably diminished in size (fig. 20). She had the remains of a leprous eruption on different parts of the body. She would not listen to any proposal for the extirpation of the tumour, which did not seem to cause her much annoyance.

FIG. 20.



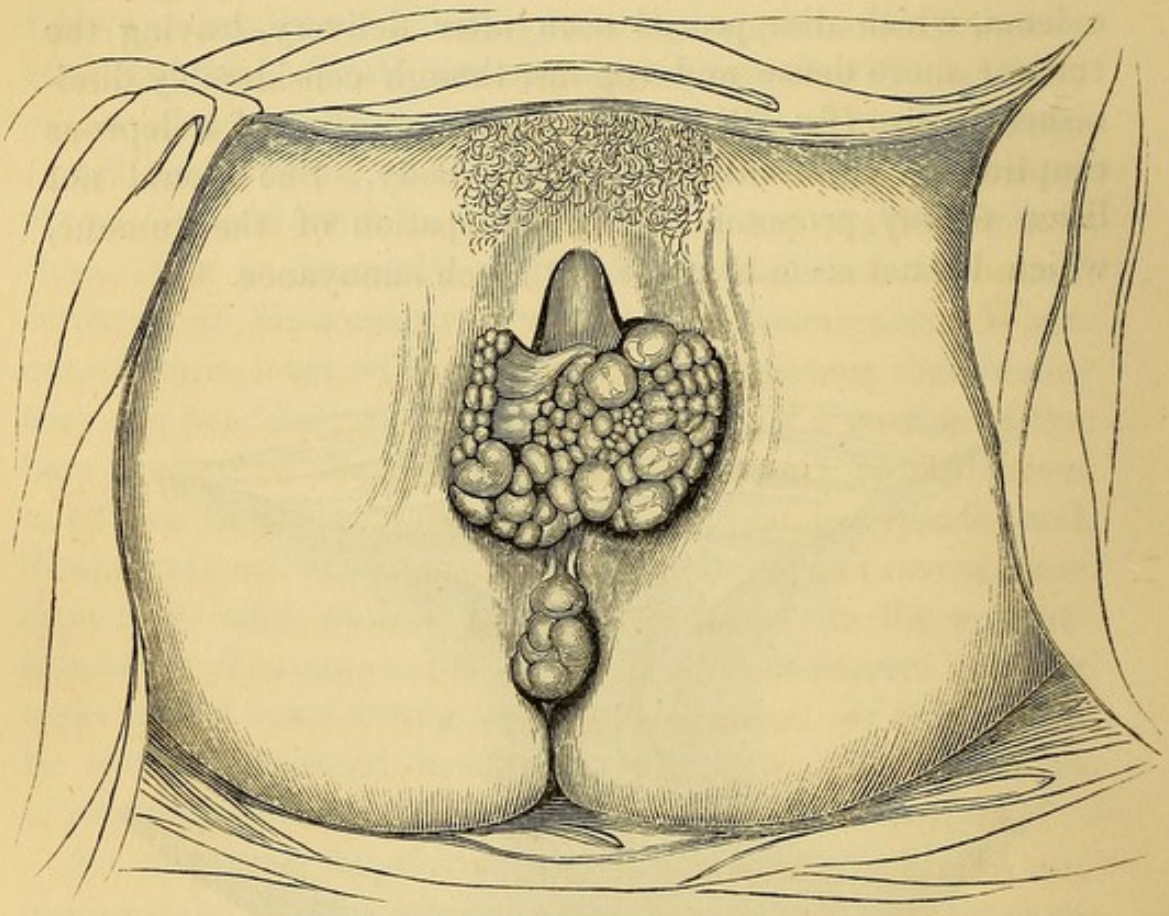
Case 1.—Syphilitic Hypertrophy of left Nympha.

The œdematous condition of the tumour, observed in the above case, is not uncommon even in patients who are not pregnant. I have often seen it in the warty excrescences as

well as in the hypertrophied states of the clitoris or nymphæ, where there was much local irritation, and the patient had been standing or walking a good deal. One or both nymphæ may be enlarged. In the following case the two were equally affected.

Case 2.—*Tuberculated and enlarged nymphæ: écrasement.* This woman was aged 35. She was ten years married, and had one child nine years ago, which was dead born. She got a venereal complaint from her husband soon after her marriage. The enlargement of the nymphæ has been coming on for the last six months, and each is now nearly as

FIG. 21.



Case 2.—Syphilitic Hypertrophy of Nymphæ.

large as a hen's egg. They are of a pale pink colour, and deeply divided by fissures, so as to present, in a very striking manner, a tuberculated or lobulated appearance. She menstruates regularly, but has a constant yellowish watery discharge from the vulva, with much pain and soreness of the

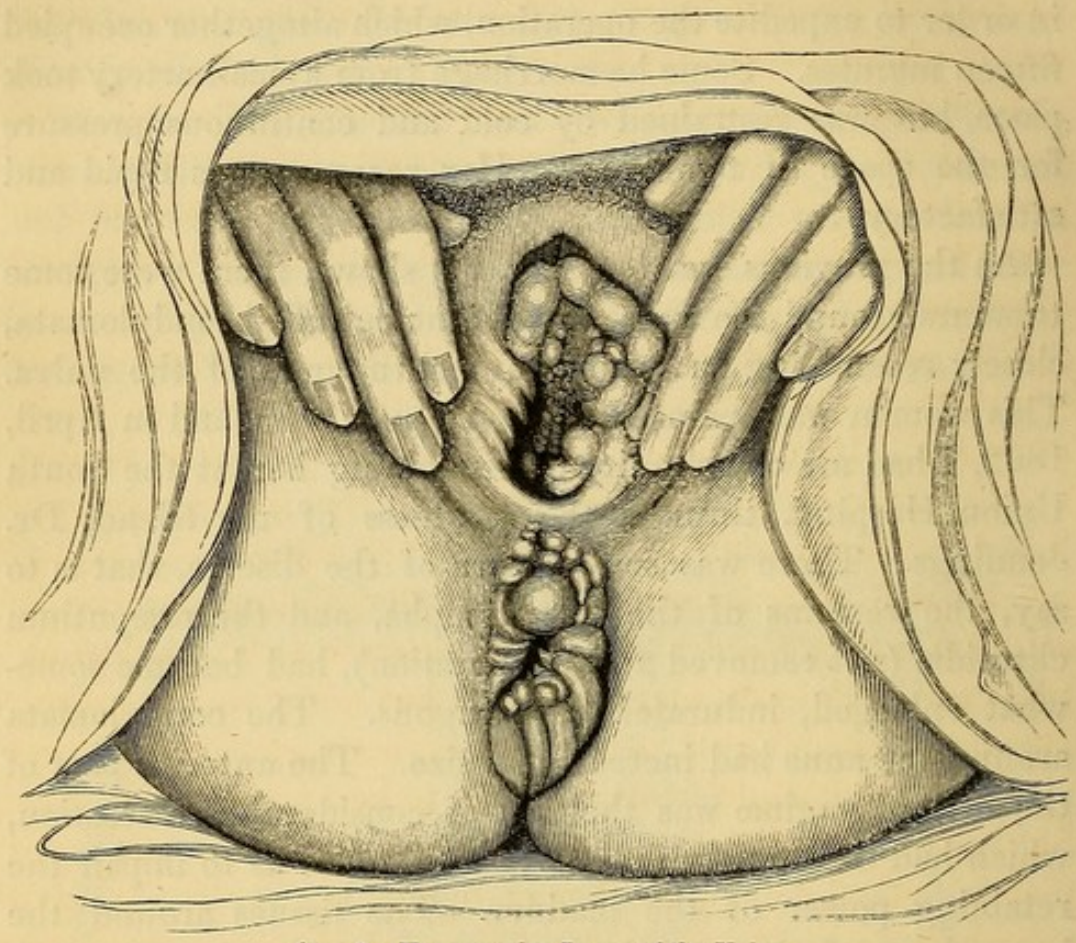
part, so as to have rendered sexual congress quite intolerable for some months back. Having put her under chloroform, I removed both nymphæ simultaneously, using two écraseurs in order to expedite the operation, which altogether occupied fifteen minutes. Some hæmorrhage from a small artery took place, but was restrained by cold and continuous pressure for the space of two hours. Her recovery was rapid and satisfactory.

As the previous woodcut (fig. 21) shows, there were some tumours around the anus, that might be called condylomata, closely resembling in structure the tumours of the vulva. This woman was operated on in August, 1859, and in April, 1862, I had an opportunity of examining her at the South Union Hospital, through the kindness of my friend, Dr. Jennings. There was some return of the disease, that is to say, the remains of the left nympha, and the præputium clitoridis (not removed at the operation), had become somewhat enlarged, indurated, and rugous. The condylomata around the anus had increased in size. The anterior part of the ostium vaginæ was the seat of considerable ulceration, which had destroyed part of the urethra, so as to impair the retaining power of the bladder. The tissues around the lower part of the vagina were thickened and indurated. The ulceration presented a red granulating surface, and had an irregular margin. She did not complain of pain in it, and it was little sensitive to digital examination. She had been for several months in much the same way as we now saw her. The illustration (fig. 22), will give a general idea of the condition of the vulva at this period.

That this ulceration, induration, and hypertrophy were manifestations of tertiary syphilis, few, perhaps, will venture to doubt, in view of the previous history of this patient. But very similar morbid appearances may be met with in the absence of any suspicion of venereal taint; and the correct classification of these diseases is, in the language of Dr. C. West, "very difficult; for while some are, undoubtedly, of syphilitic character, others belong to the same class with lupus, and are quite independent of venereal taint, and of

these, some pass by gradations, difficult to seize, into the same class with undoubted epithelial cancer."

FIG. 22.



Case 2 —Hypertrophic Lupus of the Vulva.

Such names as *herpes exedens*, *lupus*, *rodent ulcer*, *tertiary syphilis*, *esthiomenus* (Alibert), have been applied by writers to ulcers of this kind. The last of these terms is the one used by M. Huguier in a long and able memoir, read before the Academy of Medicine of Paris, containing the histories of nine cases, and some graphic illustrations of the disease. He there describes three principal forms of esthiomenus of the vulva, viz., the superficial, perforating, and hypertrophic, and each of these has one or two varieties.

I was very much interested in the above case, and at my solicitation Dr. Jennings transferred her to the Lying-in hospital, where I got Mr. Conolly to make a drawing of the disease. She remained under my observation for some weeks, during which time her general health greatly improved, the local disease put on a more healthy appearance, and continence of

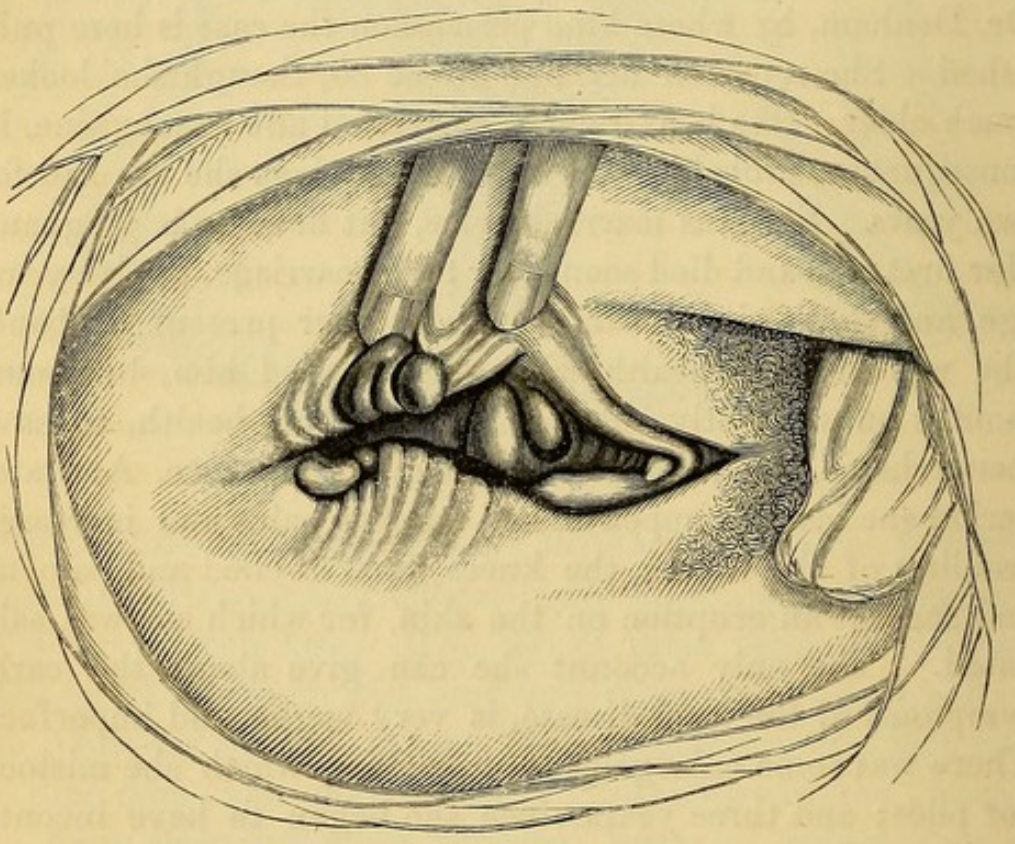
urine was restored. She got a generous diet, and Donovan's solution (the *arsenici et hydrargyri hydriodatis liquor*, of the last Dublin Pharmacopœia) in decoction of cinchona, whilst friar's balsam (*tinct. benzoini comp.*) and strong solution of nitrate of silver were locally applied.

Whilst this patient was still under treatment, the following case, by a singular coincidence, came before me. Dr. Churchill saw it with me more than once, and concurred in the opinion that it was an example of esthiomenus or lupoid ulceration.

Case 3.—*Extensive lupoid ulceration of vulva.* This woman was sent up from Athlone to the Lying-in hospital, 26th April, 1862, at which time I was acting for the master, Dr. Denham, by whose kind permission the case is here published. She reported her age to be 30, though she looked much older. She is extremely emaciated and exsanguine, in consequence, probably, of a chronic diarrhœa she has had for two years. She was married twice, but never was pregnant. Her first husband died soon after their marriage, twelve years ago, and she is eight years wedded to her present husband. She was in good health when she married him, but some months subsequently she began to lose her health, to have menorrhagia, and soreness about the vaginal orifice. At a later period she lost her appetite, had lumbar pains and increased swelling of the vagina, the knees were swelled and painful, and she got an eruption on the skin, for which she was salivated. The only account she can give about the early symptoms of the local disease, is very vague and imperfect. There was some enlargement or swelling which she mistook for piles; and three years since she began to have incontinence of urine, which has never ceased; and four months ago a tumour appeared beyond the vulva, and continues to the present time, causing her a great deal of pain by its extreme sensibility. This tumour is the bladder completely everted through a large fistulous opening. She is not aware of her husband having had any venereal disease. She never had any sore throat. There are some facts in this history which seem to favour the opinion that she had constitutional

syphilis; but on this point no positive opinion can be formed. The everted bladder formed a bright red, very vascular, sensitive tumour, about the size of a large egg, protruding beyond the labia. The urethra seemed entirely destroyed, and in its place the part was covered by a mucous membrane, rather more vascular than that lining the rest of the vulva. After replacing the bladder, we found that the eversion had taken place through a large fistula at its lower part, and so near to the symphysis that it could be discerned on separating the labia. The edges of the fistulous opening were raw, and this was the only ulceration visible at the

FIG. 23.



Case 3.—Extensive Lupoid Ulceration of Vagina, Perineum, and Anus.

present time. At the posterior part of the vulva the disease has made great ravages, the perineum and sphincter ani being completely destroyed, and about an inch of the recto-vaginal septum gone. This devastation seems to have been committed some time ago, as all these surfaces are quite cicatrized. The margin of the anus and posterior part of the

vulva are tuberculated and indurated. The above woodcut (fig. 23) represents the appearance of the parts.

There is no enlargement of any of the glands in either inguinal region. She does not suffer any pain in the vulva. The os uteri is healthy, but she has not seen the catamenia for some months.

M. Huguier's sixth case bears a considerable resemblance to this one. In it the ulcerative process had destroyed the perineum and inferior part of the recto-vaginal septum; the bladder and urethra, however, were intact. This patient, too, had a chronic diarrhœa, and died with symptoms of peritonitis. The patient, whose case has been just recorded, was reduced to an extreme degree of weakness and attenuation from constant diarrhœa (of two year's standing), over which the most powerful astringents exercised only a temporary check. The nymphæ were scarcely, if at all, enlarged.

This disease of the pudenda is certainly very uncommon, and I am acquainted with only one English writer who has mentioned it—Dr. C. West. It presents characters common to syphilis, cancer, scrofula, and elephantiasis. It is essentially chronic in its course, and unattended by pain or danger to life. The ulceration makes slow but steady progress, sometimes healing in one direction, at the same time that it extends in another. The subjacent and contiguous structures are indurated and tumefied; and fleshy growths, resembling condylomata, appear at the vaginal and anal orifices. Adult women from twenty to fifty years of age, and upwards, are the usual subjects of this disease; but M. Huguier once met with it in a girl of twelve years old, who had hereditary syphilis, and scrofulous esthiomenus on several parts of her body, the pudenda being only secondarily attacked.

Making allowance for difference of texture, situation, and function, I do not see that it presents any characters which should make us regard it as an essentially distinct disease from lupus of the face. In fact, the lupus of dermatologists has a very close affinity, if not an absolute identity, with the *esthiomène* of M. Huguier. Any one will be convinced

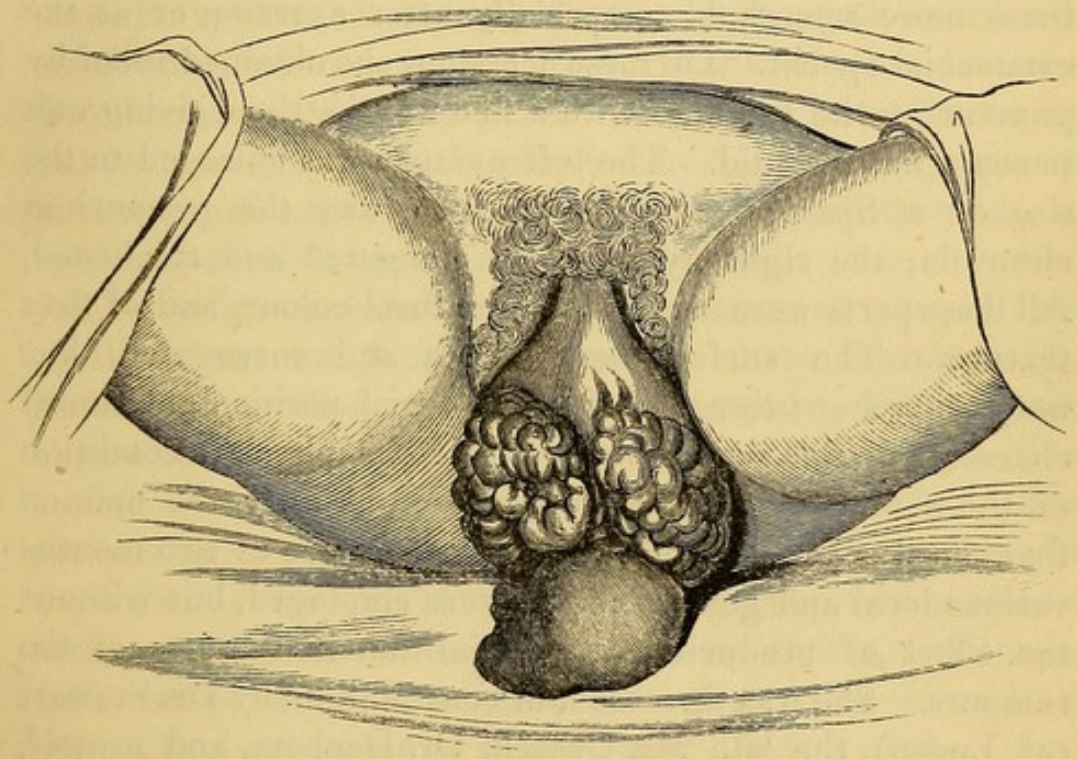
of this, who reads Dr. Neligan's admirable description of *lupus* as met with on the face and scalp, and M. Huguier's account of "*L' Esthiomène de la Region Vulvo-anale.*" "Lupus in all its forms," writes Dr. Neligan, "is a disease of youth and of the prime of life, being rare before the age of ten, and very seldom developed for the first time in old age. As regards its *causes*, there is abundant evidence to show that it is intimately connected with the scrofulous diathesis, especially when it is hereditary; and many cases seem to prove that a constitutional syphilitic taint also is a frequent predisposing cause of it." It is almost needless to observe, that *lupus pudendi* is a totally distinct and different disease from *noma pudendi*. The latter is a most acute gangrenous affection, almost exclusively confined to infants and children. It bears about the same relation to the lupoid disease of the genitals, of which we have been speaking, that *cancrum oris* does to lupus of the face.

Case 4.—*Enormous enlargement of clitoris and nymphæ: extirpation.* A countrywoman, aged 30, came under observation in March, 1856, when in the seventh month of her second pregnancy. She sought advice on account of the condition of the labia minora, and was admitted into one of the wards for Diseases of Women in the Lying-in hospital. Nine years previously she contracted venereal disease from her husband. About two years ago the nymphæ began to enlarge; and within the last few months they have increased very rapidly. Three large tumours hung down from the genital fissure, of a pinkish red colour, slightly œdematous, and very tuberculated. The centre tumour was the clitoris, enlarged to the size of a turkey's egg, and bearing some resemblance to a procident uterus. On either side of this were the nymphæ of immense magnitude, and of very irregular figure. The fissures and clefts of these growths were abraded, and yielded an abundant, strong-smelling, yellowish discharge.

As the enlarged clitoris might have interfered with parturition, its removal was deemed advisable, and was effected in the following manner:—A strong silk ligature was applied

around its pedicle (which about equalled the thickness of a man's thumb), and three days afterwards it was excised below the line of strangulation. The remains of the pedicle separated some days later, leaving a clean granulating surface, which healed satisfactorily. The woman was now allowed to go home for her confinement; some weeks after which event she came back to the hospital. The neck of the growths now remaining about equalled the middle, index, and ring fingers united. This flat pedicle or neck was divided into

FIG. 24,



Case 4.—Syphilitic Hypertrophy of Nymphæ and Clitoris. Anterior view.

three equal portions, each of which was included in a separate ligature, applied as tightly as possible. Very considerable pain was thereby occasioned. On the next day the strangulation of the tumours was found not to be complete, and the neck of the growth was again included in two separate ligatures, the tightening of which caused very acute pain which lasted for many hours. Two days after this, the whole mass was removed with the scalpel below the ligatures. One small artery bled, but was easily checked. The remains of the

tumour sloughed off in the course of a few days days, and the wound healed slowly but completely.

In Cases 1, 2, and 4, which have been already related, the production of the growths, may, without doubt, be attributed to a syphilitic taint in the system. Now let me relate another case, which presents some points of similitude and of contrast to the foregoing.

Case 5.—*Hypertrophy of nymphæ and prepuce.* The subject of this case was a young lady, aged 20, of healthy constitution, and menstruating regularly. For some months she observed a gradual enlargement of the labia minora, at times more remarkable, especially after exercise, or at the catamenial epochs. On these occasions she obtained relief by puncturing the tumours with a fine needle, thus giving exit to some watery fluid. The left nympha was enlarged to the size of a Spanish chestnut, and so was the præputium clitoridis; the right nympha was elongated and thickened. All these parts were nearly of the natural colour, and of firm texture. The surface was rough and corrugated, but *not fissured* or *tuberculated.* The social position and moral character of this young woman, and the physical condition of the genital organs, all concurred to justify the opinion that she was perfectly chaste. For the space of two months various local and general means were employed, but without the effect of producing any diminution in the size of the tumours. She was then seen, in consultation, by Dr. Stewart (of Lucan), the late Mr. Cusack, Dr. Denham, and myself, and we all agreed that extirpation was the only mode of cure. Accordingly, on the following day, she was put fully under the influence of chloroform, and I removed the diseased parts with the écraseur. She was placed on the back, and she struggled a good deal during the two operations, which lasted forty-five minutes. When she had recovered from the influence of the chloroform, she complained of very severe pain in the vulva. This continued for some hours.

The healing of the wound was very tedious; but the result of the operation was highly satisfactory; and she continues well to the present time, and without any reappearance of the

disease. The parts removed are preserved in the museum at the Lying-in hospital.

In this case, the appearance of the tumour differed in one respect from that of the three previous cases, Nos. 1, 2, & 4, namely, that, whereas this was only *rough* on the surface, the others were *deeply fissured* and *tuberculated*. Now, perhaps, this difference might serve as a diagnostic mark between syphilitic and other tumours of the nymphæ, as there was no shadow of ground for suspecting any syphilitic taint in this patient, whilst there was clear evidence of the other three women having had constitutional syphilis. I merely put this forward by way of a suggestion, as my present experience would not warrant more. That warty and other tumours may develop themselves in this region under different influences can hardly be doubted; but whether they present differences of structure or external form, corresponding to the cause of their production, is a question that cannot as yet be fully answered. In corroboration of the opinion above thrown out, I may cite a case where I assisted Dr. Atthill in removing an enormous enlargement, of the simple hypertrophic kind, of the right nympha and labium. The patient was an unmarried woman, aged about 35. The tumour had a pediculated shape, and hung down in front of the vulva. The integument covering it was healthy, and its under surface was covered by mucous membrane continuous with that of the vagina. It had been growing for a long time. Ten years before, she got some pruritus of the vulva, and for the cure of this she used a lotion recommended to her by a nursetender, which seemed to have produced severe local irritation, and from this she dated the commencement of the growth. Dr. Atthill successfully extirpated it with the écraseur, the patient being under chloroform. The pedicle was nearly equal in size and thickness to four fingers; and in severing it, he first carried the chain of the instrument through its centre (an opening having been previously made for the purpose with a bistoury), and thus divided the neck of the growth by two operations, each lasting about ten minutes. No hæmorrhage ensued, and her recovery was

satisfactory and rapid. This woman was a servant of the better class, and, to all appearances, a woman of respectable character. She presented no indication of any syphilitic taint, nor of ever having had sexual intercourse.

Sir Charles Clarke has described a species of tumour affecting the labium, that might, perhaps, be included in this section. He called it "*the oozing tumour of the labium.*" It certainly does not seem to be of a cancerous nature; and it bears a considerable resemblance to some of the hypertrophic enlargements of which we have been speaking; but, whether it really was identical with them or not, I cannot take upon me to say. As a distinct and special disease, I cannot say that I have ever seen it; and though systematic writers upon gynæcology have mentioned it on the authority of Clarke, yet it does not appear that they have seen the disease themselves. Mr. Rump is the only author I know of, besides Clarke, who has met with it, and he says that a section of the tumour exhibited hypertrophy of the integument and of the areolar structure of the labium. An abundant secretion of serous fluid—a principal feature of the "oozing tumour"—is not an unusual symptom in some cases of labial hypertrophy of the kind above described.

Fibrous or *fatty tumours* may develop themselves at the vulva, and when they do so are very generally seated in the greater labia, or, on very rare occasions, in the perineum. All the solid tumours I have seen originating in this situation, had more or less of a fibrous structure; though growths of an adipose or fatty kind are also met with, but they constitute the exceptions. These tumours give rise to few symptoms, and are productive of so little positive annoyance, that they have often attained a considerable magnitude before the patient sought the advice of a medical man. Their rate of growth is very slow, and they generally show a tendency to approach the surface of the labium, and afterwards to become pediculated, apparently from the effect of gravity. It is well to bear this in mind as it may have some influence upon treatment, or, at least, upon the time for surgical interference. Ulceration of the integument sometimes

takes place over the most dependent part of the tumour. The right labium would seem to be more frequently affected than the left; but no cause can possibly be assigned for this preference.

Case 6.—*Fibrous tumour of right labium.* The morbid growth in this case equalled in size a large orange, was perfectly globular, and had an exceedingly dense and close fibrous structure. At its most dependent part, the labium was ulcerated to the extent a dollar would cover. This ulceration involved the entire thickness of the labium covering the tumour, and exposed the surface of the latter at the depth of a quarter of an inch. The patient, from whom this labium was removed, was a countrywoman about forty years of age, and had borne several children. Fifteen years had elapsed since she first perceived any enlargement of the part. She had experienced no annoyance whatever from the tumour, except what simply resulted from its bulk and weight. The enlarged labium retained its connexion with the pelvis by a neck about equal in thickness to three fingers, and an inch and a-half long; this was divided with a bistoury, and the resulting wound healed satisfactorily by the first intention. This woman was under the care of my esteemed friend, Dr. Brunker of Dundalk, by whom the operation was performed; and the tumour is in the museum of the Lying-in hospital.

Now, if this tumour had been allowed to remain some time longer, its stalk would, no doubt, have become considerably elongated and reduced in thickness, so as to approach to the state of things in the following case.

Case 7.—*Fibrous polypus of right labium.* A middle-aged married woman presented herself at the Lying-in hospital, having a pendulous tumour from the right labium. The tumour itself was solid, firm, and globular, and equalled in bulk a turkey's egg. Its pedicle, which was as thick as one's little finger, and six inches long, was, apparently, formed by the elongation or drawing out of the pudendal lip. A stroke of the scalpel successfully removed the growth. This tumour had been growing for years. Scanzoni met

with a case in every way similar to this, the tumour growing, too, from the labium of the same side.

In the museum of the Royal College of Surgeons of Ireland, there is a tumour of this kind, which was removed by the late Mr. Kirby. The following is Dr. Houston's description of it: "Pendulous tumour from the labium pudendi, to which it was attached by a narrow, round pedicle. It consists of a dense, white, fibrous tissue; and is covered by very thick skin remarkably corrugated."

In all the foregoing cases, the tumour grew from the greater labium, but the nympha, also, may have solid tumours developed in it. Dr. R. Lee was consulted by a widow lady, aged 50, who had a round tumour, as large as half an orange, hanging from the right nympha by a ribbon-like pedicle, about three inches in length and half an inch broad. The surface of the tumour was ulcerated, the edges being well-defined. There was a strong pulsation in the pedicle, and this induced him to ligature it; in two days after he cut it across with a scissors, and the patient recovered without a bad symptom.

The extirpation of these tumours is a simple and safe proceeding where, as in the cases just related, the tumour has protruded so far as to have become pedunculated. In all such instances, écrasement would be the preferable mode of operating. If the tumour be still imbedded in the labium, more cutting would be required, in order to get it away; and, it may be a question well worthy of consideration, whether to wait till the tumour has become pendulous, or in some degree pedunculated, before attempting its removal.

Cystic tumours of the vulva, generally, if not always, develop themselves in one or other of the labia majora. On many occasions, I have met with small cysts, about the size of a pigeon's egg, on the inner side and posterior part of the labium, and immediately underneath the thin integument of this part. According to M. Huguier, these tumours are much more frequently developed in the left than the right labium. Of thirty-four cases, which fell under his observation, the left labium was the seat of the tumour in eighteen

instances, the right labium in eleven, and both labia contained cysts in five of the cases. The patient has been made aware of their presence more by the increased bulk of the part, than by any unpleasant symptom to which they have given rise. Boys de Loury has known women carry them for upwards of twenty years without experiencing any inconvenience. These tumours are in most, if not in all, instances produced by obstruction of the mucous or sebaceous follicles, which exist here in such numbers, or of Duverney's glands. They may attain a considerably larger size than what I have mentioned above. In one case about which I was consulted, the tumour had a long oval shape, and its bulk was probably equal to that of a small hen's egg. It was situated in the posterior part of the right labium. The patient was a healthy woman, about thirty years old, married, and had two children. She fully expected that this swelling could be dispersed by medicine, and when I told her such was not possible, she at once declined submitting to any surgical treatment for its removal, as it gave her so little annoyance, and was not of a malignant character.

In all the cases I have seen, these cysts contained a thick fluid, sometimes clear, like glycerine, or opaque and yellowish. Boys de Loury (who has written a very good memoir on this subject contained in the *Revue Medicale* for 1840,) says, that nothing is more variable than the nature of the matters which these cysts enclose; that it may be a perfectly clear transparent fluid, or a thick blackish matter resembling meconium, a purulent fluid, or sanguinolent ichor. He has even seen them contain blood, having all the appearance of pure venous blood; and, when opened, they have sometimes discharged blood at the menstrual epochs. The integument covering these tumours is generally of a darkish brown, or a bluish tint.

Simply tapping these tumours is of no permanent benefit; they generally fill again with rapidity. An incision should be made into the cyst, and its internal surface well cauterized with nitrate of silver, acid nitrate of mercury, or very strong tincture of iodine. Scanzoni prefers this mode of operating

to cutting out a piece of the cyst, as some have recommended. Before attempting any operation, however, the strictest care should be used to determine with certainty the true nature of the tumour, lest it might be occasioned by the presence of a knuckle of intestine. I would here wish strongly to impress upon the practitioner the importance of the patient being kept quiet in bed, and on spare diet, for some days after any operation, however simple, upon the vulva, the vagina, or the uterus. The reason for this precaution is to be found in the fact, that dangerous, or even fatal, peritoneal inflammation may follow any of these operations. Dr. Robert Lee lays down a similar injunction, and says that he has "observed death take place from obscure abdominal inflammation twelve or fourteen days after the excision of a vascular tumour from the margin of the meatus urinarius." I have myself known an attack of peritonitis to carry off the patient, after the simple division of an imperforate hymen which had caused retention of the menses.

Under the title of *vascular* tumours of the vulva there should, in strictness, perhaps, be included but one kind of growth, namely, that arising from the meatus, or the canal of the urethra; and called by Sir Charles Mansfield Clarke, "vascular tumour of the urethra," as well from its extreme vascularity, as from the readiness with which it yields blood on the slightest injury. As the arrangement I have laid down of vulvar tumours does not pretend to scientific accuracy, there may be included under the above heading some other tumours, occasionally met with at the vulva, viz., eversion of the bladder—which certainly presents to the eye all the appearance of a highly vascular tumour; varicose enlargement of the under surface of the urethra; prolapse of the mucous membrane of the urethra; and polypus of the bladder.

Very little has been added to our knowledge of vascular caruncles or vegetations of the urethra, since Clarke described them upwards of forty years ago. They are not at all uncommon. Very many examples have come under my notice; and there is no one much engaged in the treatment of female complaints but must have seen them. The bulk of the

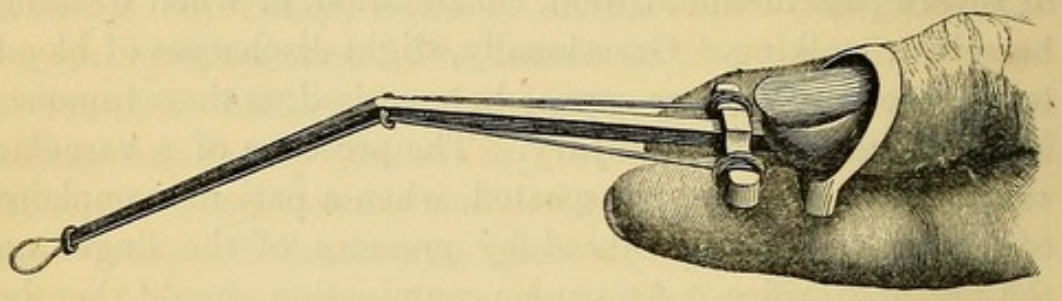
tumour seldom exceeds that of a ripe raspberry, to which indeed it bears no small resemblance, though some authors allude to cases where the tumour was many times larger than this. Its situation, its bright scarlet colour, contrasting with that of the surrounding parts, and its exquisite sensibility, at once, and unmistakeably, demonstrate its true nature. The patient is generally impelled to seek advice in consequence of severe pain in micturition, cohabitation, or when washing herself, or walking. Occasionally, slight discharges of blood take place, at which we cannot be surprised, as these tumours bleed on the slightest injury. The presence of a vascular tumour may be always suspected, when a patient complains of severe pain being caused by pressure of the finger on the urethral orifice. An ocular examination should then be made (and this is always most conveniently and delicately done with the patient lying on her left side and the knees well drawn up), whereupon the growth will be at once recognized by its bright red colour. Tumours very similar to that we are now considering are met with in other situations where skin and mucous membrane join, viz., at the anus, the os uteri, and in the ear. In children I have seen them growing by a delicate stalk an inch long, from within the anus. At the os uteri they are quite insensible; and, on rare occasions, even those growing from the urethra possessed but little sensibility.

This vascular tumour commonly grows by a stalk or pedicle from the internal surface of the urethra, somewhere near the meatus urinarius externus. In these instances, its extirpation is easily effected by torsion, excision, or the application of a fine silk ligature.

A scissors is one of the best instruments for excising the tumour, which should be first seized with a forceps and drawn down, whereby the pedicle will be brought within safe reach. A vulsellum, or Museux's forceps, does not answer well for the purpose, as the tumour is of an infirm structure, and may break down under the teeth of the instrument, or bleed so much as to obscure everything. A small fenestrated forceps, such as is represented at fig. 15, (page 170) I have found to be the most suitable for holding the

tumour either for excision or torsion. In some cases, the snare-like apparatus, used by Mr. Wilde for the removal of aural polypi, and described at page 420 of his work on Aural Surgery, answers uncommonly well for extirpating these urethral vascular tumours. Annexed is a woodcut of this instrument.

FIG. 25.



Mr. Wilde's Snare.

If the whole tumour be not removed by some one of the above means, what remains of it should be destroyed with a strong caustic, such as nitric acid or solid nitrate of silver. The former of these causes more acute pain at the time, but it does not last so long as that occasioned by the lunar caustic. The actual cautery is another, and a most efficient means of curing these troublesome excrescences. The point or extremity of a thick knitting needle heated to the proper temperature in a spirit lamp at the patient's bed side, answers the purpose admirably well. Irritability of bladder is a symptom that sometimes accompanies the disease.

Case 8.—*Vascular tumour of urethra.* J. H. aged 30, a widow for four years, was admitted to the Lying-in hospital suffering from a pain in the vagina, very much increased when she is passing water, which she feels a necessity to do very often: general health good, menstruation regular. On examination the uterus was ascertained to be healthy; but, as the finger was entering the vagina, she experienced acute pain; and it was found that the seat of this pain was the meatus. This led to an inspection of the part, when a small vascular tumour, very little larger than a pea, was discovered growing from the under surface of the urethra, just within its orifice. Nothing could exceed the sensibility of this caruncle—the least touch causing the patient to jump and writhe with pain.

It was included in a fine ligature, which cut it across when tightened. However, the cure was complete.

It is worthy of note how small the tumour was in this instance, and yet how much discomfort and pain it gave rise to. This disproportion between the amount of suffering and the size of the vascular growth, I have many times had occasion to observe. In the following case the tumour was considerably larger than in Case 8, and yet the only symptom apparently produced by it, was an irregular sanguineous discharge in small quantity.

Case 9.—*Large vascular tumour of meatus: ligature.* A married woman, of sixty years of age, had six children, and had ceased to menstruate for fifteen years. Her general health had been good; but for seven months she had had occasional bloody discharges from the parts of generation. This was the only symptom of which she complained. On careful examination no uterine disease could be detected. Hanging from the urethra, by a short slender pedicle, was a vascular tumour, of the size and shape of an almond. It had a vivid red colour, bled freely when touched, and was sensitive to the touch. A ligature was put around its pedicle, and the next morning the tumour had disappeared, and the patient was completely rid of her troublesome complaint.

The means already mentioned may only partially succeed in extirpating the growth, and caustics must be used to destroy the remainder. When the tumour grows from a large base, our only hope of removing it is by the same agents, or by the actual cautery. I have seen this disease in patients of every age, from 26 upwards; but the majority were over 40, and married. This is at variance with the experience of the late Dr. Rigby, his cases having been entirely among women under the age of 30, and the majority of them having been single. The tumour sometimes seems to involve nearly the entire circumference of the urethra; and I have then thought it was not in reality a morbid growth, but a prolapse of the mucous membrane of the canal, exactly resembling, on a very reduced scale, prolapsus ani. These cases were the most rebellious to treatment.

Protrusion of the mucous membrane of the urethra is an actual disease of occasional though rare occurrence. Lisfranc has noticed it, and says the tumour so produced may have a considerable volume, its colour being sometimes dark red, sometimes pale red, and sometimes of a pinkish-grey hue. The portion of mucous membrane thus displaced becomes, in the course of a little time, congested and inflamed. As the result of this, its size augments and sensibility increases, so that its reposition is attended by pain, and cannot be effected without making sustained pressure upon it to empty the vessels. In the treatment of this affection, the supine posture must be a good deal observed by the patient, and the super-abundant membrane kept within the urethra,—if necessary, by the pressure of a catheter. A very light pewter, or tin catheter, about number nine size, provided with a cork or stop-cock, would be the best to use: and if it be bent into the proper sigmoid shape recommended by Dr. Marion Sims, it will stop in the bladder, while the patient is in bed, without fastening. Strong solution of nitrate of silver should be occasionally applied to the diseased mucous membrane, and cold ablution used night and morning. Should these means not succeed, portions of the mucous membrane may be snipped off with a curved pair of scissors, in a radiating direction from the urethral orifice; or the entire protrusion may be removed by ligature (a catheter having been previously introduced, against which the part is constricted), or by a small écraseur. I have not seen any case, however, requiring a resort to extirpation.

Eversion of the bladder, when complete, forms a considerable sized highly vascular tumour between the labia, of a vivid red colour, and of exquisite sensibility under manipulation. This displacement in the adult only takes place when there exists a large fistulous communication between the vagina and bladder; and through this opening the bladder descends "inside out." Partial eversion is not uncommon; but of complete inversion, only two instances have come under my notice. A brief sketch of these cases will supply all that is necessary to be said on the subject.

Case 10.—*Complete eversion of bladder.* This was a young woman who had been confined some months before of her first child. The labour had been very difficult, and since then she had been unable to retain the urine. From between the labia there protruded a round tumour, the size of a small egg, and of a vermillion red colour. It was rather rough and moist on the surface, and extremely sensitive to the touch. When she kept quiet it retired out of view, but re-appeared on using any exertion. There was much excoriation of the labia and thighs from the constant dribbling of the urine. A catheter passed in through the urethra immediately appeared on the anterior part of the tumour. Nearly the entire of the vesico-vaginal septum was destroyed in this case. The organ could be replaced without difficulty, though not without giving her some pain. No mechanical contrivance for keeping up the bladder could be tolerated.

In the other case that fell under my observation, the bladder had been completely everted for four months, and, from its delicate sensibility, was a source of great and continual suffering. It had prolapsed through a fistula the size of a shilling, resulting from rodent ulcer of the vagina. I succeeded in replacing the bladder, whereby the patient's sufferings were greatly alleviated, though the operation itself was very painful. The bladder did not again descend as long as she remained under my notice. The everted bladder formed a tumour protruding beyond the labia, the size of a turkey's egg, and had been mistaken for a procidentia of the womb. It had a bright scarlet colour, and a universally moist and minutely granular surface.

Instances have been recorded in which this eversion, or turning-inside-out, of the bladder has taken place through the urethra, in infants, from prolonged fits of coughing. Dr. Beatty once met with an instance of this, the particulars of which he communicated to the Dublin Obstetrical Society last session. The subject of it was a fine strong child, one year and eleven months old. The inverted bladder formed a scarlet tumour about the size of a chestnut, just between the labia. Upon touching it with the finger the child cried

violently. It could be replaced by pressure; and this done, the urethra was found to be dilated to such an extent that the index finger could easily be passed through it into the replaced bladder. The invertion had occurred when the child was twelve months old, in consequence of a fit of crying. There was also a large prolapsus of the rectum, which resulted from an attack of diarrhœa, when the child was aged nine months. Before there was time to test the merits of any plan of treatment, the child was carried off by a severe fit of croup.

The *diagnosis* of an everted bladder cannot be attended with any difficulty whatsoever, if the practitioner be only aware of the possibility of such a displacement of the organ. The connexion of the tumour with the anterior wall of the vagina, the characters of its investing membrane, its reducibility, and, lastly, the test of catheterism, all concur to point out its true nature.

Another growth which may protrude from the urethra and form a tumour at the vulva, is a *polypus arising from the interior of the bladder*. Mr. Birkett has given a very full description of a case of this kind, in the forty-first volume of the Medico-Chirurgical Transactions. The age of the patient was five years. After suffering from difficult micturition, requiring the constant employment of the catheter for several weeks, with symptoms of general ill health and increasing failure of strength, a dark red growth made its appearance between the labia. This interfered with the introduction of the catheter, unless the instrument was passed along its side or behind it. Having chloroformed the child and emptied the bladder, he ascertained, "with the utmost facility, that the growth projected through the meatus urinarius, and was attached to the superior boundary of the neck of the bladder. The index finger could be passed into the bladder behind the growth, without impediment, and the projecting portion could be partially returned into the cavity of the organ. A hard mass could be felt in the pelvic region, immediately behind the symphysis, which was enveloped by the contracted bladder. The new growth was

composed of lobes and lobules, was soft, but strong enough to resist ordinary manipulation; it was not very vascular, but resembled closely the firmer varieties of nasal polypus." That portion of the growth which projected was included in a light ligature: this cut slightly into its substance, but did not cause any bleeding. No disturbance, local or constitutional, ensued upon this operation; but the retention of urine continued, and the child daily became weaker. The piece of the growth around which the ligature was tied sloughed off, but more protruded. Some days after this, considerable fever supervened, and the patient sank.

This disease is extremely rare: there have been only about eleven examples of it altogether placed on record. It is not by any means confined to the female sex; nor does the polypus necessarily protrude externally through the urethra. Of the eleven cases just adverted to, four were females and five males: two are excluded, their true nature being somewhat questionable.

The *diagnosis* of a vesical polypus protruding from the meatus urinarius could not present any difficulties to a painstaking examiner. At first it might be mistaken for eversion of the vagina or of the bladder, but by tracing the relations of the tumour, and more particularly the course of its neck or pedicle, all doubts may be set at rest.

The results of treatment are not very encouraging; for, the projecting polypus, is generally but one of several similar growths. However, it is not of a malignant nature, and its removal may be accomplished: and in preference to the ligature (employed by Mr. Birkett) I would recommend the écraseur.

Another tumour to which allusion has been made, is the *thickening of the urethra,* described by Sir Charles M. Clarke, and which consists essentially in a varicose condition of the vaginal rugæ immediately underneath the meatus and in the course of the urethra. When the patient stands up or strains in any way, the tumour swells, and separates the labia. It is moderately sensible, elastic to the feel, and can be greatly diminished by pressure. Although I have not seen a case exactly answering Clarke's description, yet many cases have

come under observation where the symptoms existed in a mild degree. All these patients had borne two or more children, and most of them were women of full habit. They complained of an "aching pain" behind the pubis, when standing or walking, and of some increased discharge from the vagina. Cold hip baths, and astringent applications, with attention to the state of the bowels, and rest in the horizontal position, never failed in effecting much improvement. During the state of pregnancy this ailment was more marked, and productive of more annoyance to the patient than at any other time, which admitted of an easy explanation in consequence of the greatly increased vascular turgescence of the vagina, in common with all the other genital organs, at this time.

Cancerous affections of the external genitals have scarcely been noticed by British authors with the exception of Dr. C. West. Yet these affections are not very uncommon, and that they possess a high degree of importance will not for one moment be called in question. Discarding all the refined distinctions and varied terminology of recent writers upon the subject of cancer, I would say that there are simply three forms of cancerous or malignant tumours commonly met with at the vulva, viz.:—

Hard carcinoma, or scirrhus,

Epithelial cancer, and

Soft or fungoid cancer.

Any one of these varieties may primarily attack the vulva, and may extend thence, internally to the vagina or rectum, or externally to the mons veneris, perineum, or the inguinal region. No example of the soft or fungoid cancer of the vulva has come before me, so that it would seem to be the rarest form. That it does occur however, is a fact that rests on the testimony of very competent observers: Dr. C. West, amongst others. Dr. Robert Lee relates a case of malignant fungoid disease affecting the orifice of the urethra and of the vagina. When he saw this lady the catheter could not be passed, and she was insensible: her death took place soon afterwards. If there be any truth in the analogy laid down

by Huguier—(and for which he takes to himself some credit)—between the diseases of the face and those of the pudenda, we might expect that fungoid cancer would, of the three kinds, least frequently attack the vulva. Examples of the other two have come under my observation, and those cases of which I preserved any record shall now be related.

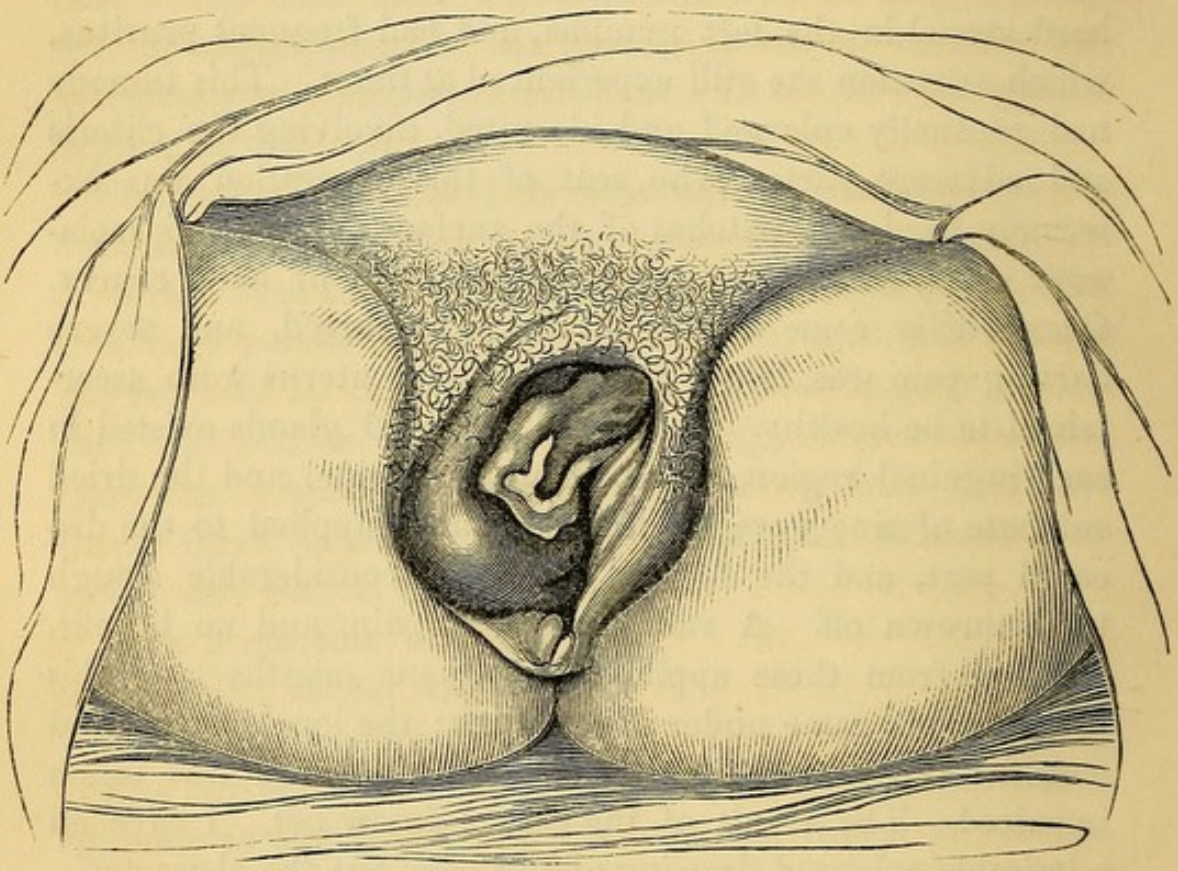
Case 11.—*Hard cancer of clitoris and left nympha.* A. F. aged 51, had seven children, but, when admitted to the chronic ward of the Lying-in hospital, was a widow for 12 years. Menstruation had ceased for two years; and six months before her admission into hospital she had noticed a hard kernel in the left nympha, and had frequent pruritus, which sensation she still experienced at times. This tumour had gradually enlarged and ulcerated, involving the clitoris and adjacent parts. The seat of this ulceration was extremely hard, and patches of the surface had a black melanotic color, which is a rare accompaniment of hard cancer. Occasionally some bloody discharge occurred, and severe darting pain was felt. The vagina and uterus were ascertained to be healthy. Indurated enlarged glands existed in each inguinal region. The chloride of zinc, and the dried sulphate of zinc were at different times applied to the diseased part, and the former caused a considerable slough to be thrown off. A vast amount of pain, and no benefit, resulted from these applications. Some months later this patient again came under observation: the local disease had considerably extended, and her general health was much impaired. The result of the case I know not. I have an admirable coloured drawing of this case, but the characteristic appearances could not be shown in a simple engraving.

Case 12.—*Ulcerated carcinoma of vulva.* This was a woman, aged 66, who for 18 months was annoyed with pruritus of the pudenda, then a tumour made its appearance; six months afterwards she came under my care. The clitoris was greatly enlarged, indurated, and partially ulcerated; the ulcerated surface being depressed and of a yellow colour. The swelling extended around the right side of the ostium vaginæ, forming a livid-coloured tumour of stony hardness, in this situa-

tion. Though attended with some difficulty, yet a careful digital examination of the uterus was made, and this organ presented no sign of disease. The case was apparently one of cancer of the pudendum, and in too advanced a stage to justify any operation being undertaken. The accompanying cut (fig. 26) gives as good an idea of the morbid appearances as can be conveyed without the aid of colours.

This was a very stupid old woman and I could not ascertain from her where the disease had first made its appearance;

FIG. 26.



Case 12.—Hard Cancer of Clitoris and Labium.

I imagined in the clitoris. Dr. R. Lee relates a case where disease similar to this began in the orifice of the urethra and neighbourhood; the labia, nymphæ, clitoris, vagina, and uterus, being all in a healthy condition. The disease had begun like a hard wart; ulceration ensued; and he was informed that she died with retention of urine.

Case 13.—*Hard cancer of vulva.* A country woman, aged 48, who had two children, but had been a widow for

twenty years, had more or less whitish discharge from the vagina for two years before admission into the Lying-in hospital. Within the previous three months she had suffered from severe scalding in making water, and very constant pruritus of the vulva. At night she frequently felt a darting pain in this situation, and this pain was somewhat relieved, she said, by pressing against the part. She menstruated regularly every month. The condition of the parts was as follows: there was no enlargement or discoloration of the greater labia externally, but on separating them, I found that the inner side of the right nympha and the entire circumference of the ostium vaginæ, for some distance up the canal, were the seat of a hard deposition, so as to render the introduction of the finger a matter of difficulty. There was some ulceration on the nymphæ, and this had extended through the right one so as to divide it into two portions. The ulcerated surface was of a bright red colour. There was a profuse, thin, yellowish discharge, of a very disagreeable odour. The os uteri did not present to the touch any abnormal condition.

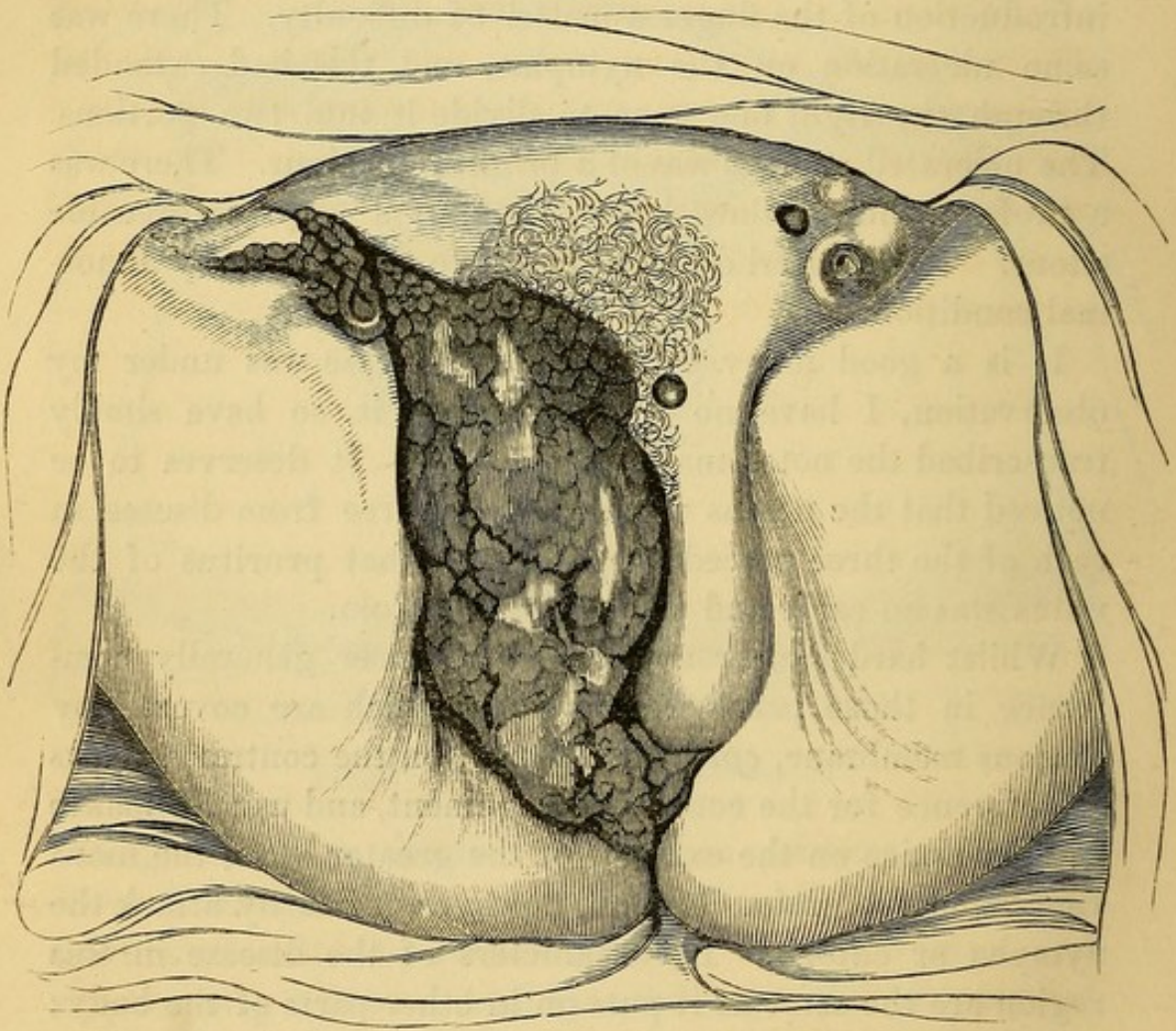
It is a good many years since this case was under my observation, I have no recollection of it, so have simply transcribed the notes made at the time. It deserves to be noticed that the uterus was apparently free from disease in each of the three preceding cases, and that pruritus of the vulva was an early and prominent symptom.

Whilst hard cancer and fungoid cancer generally commence in those parts of the vulva which are covered by mucous membrane, *epithelial cancer*, on the contrary, shows a preference for the common integument, and usually makes its appearance on the exterior of the greater labia, the mons veneris, or the groin. It may, however, primarily attack the nympha or clitoris. The characters of the disease in this region are the same as it puts on in other parts of the body; and therefore it is unnecessary that they should be here described. I have only preserved the record of one case, which is as follows:—

Case 14.—*Epithelial cancer of pudendum.* This was a woman, aged 67 years, the mother of ten children. The

entire of the perineum, and of the right labium and the mons veneris, presented one continuous surface of ulcerated epithelial cancer. Tubercles of the same disease had formed in each groin, and were beginning to ulcerate. She stated that the complaint had appeared about a year previously, and that it was not attended with much pain at any period. She had a sensation of heat in the affected parts, and occasional difficulty in micturition. A few slight attacks of hæmorrhage had taken place. The disease had begun in the right groin, and thence extended to right labium. The vagina and uterus were found to be free from every tangible sign of disease. This woman survived for twelve months longer, and then died

FIG. 27.



Case 14.—Epithelial Cancer of Right Labium and Groin.

in the workhouse, of exhaustion and debility. The woodcut (fig. 27) gives a correct representation of the size, extent, and granular appearance of this malignant tumour.

When this patient came under observation, the disease was much too far advanced to admit of any curative treatment.

At an early period, when the morbid growth is limited to a small extent of surface, its removal may be safely accomplished by the knife, the écraseur, or by the chloride of zinc paste. Thus I have seen the disease forming an elevated tumour, with a rough surface of reddish colour, and indurated base about the size of a halfpenny, on the free margin of the greater labium: and in every such case as this, provided the inguinal glands are unaffected, there can be no question as to the propriety of extirpating the tumour; and probably the best and most expeditious mode of doing so, would be simple excision with the knife, and then bringing the sides of the wound together with a few points of wire suture. There is seldom more than one or two vessels of sufficient size to require a ligature in this operation; but there is a good deal of general venous oozing, and till this has ceased the wound cannot be closed. Irrigation with cold water, and a little patience, will generally suffice to bring about the arrest of this bleeding.

PELVIC HÆMATOCELE.

The lesion to which this name is applied consists in an extravasation of blood into the pelvic cavity, either within the peritoneum, or external to this sac. In the latter case the blood lies underneath the serous membrane, between it and the surface of the uterus, or in the subserous cellular tissue of the broad ligament or the pelvis. The tumour so formed being not unusually situated behind or around the uterus, the names of *retro-uterine* and *peri-uterine* hæmatocele have been given to the disease. But these terms are obviously open to the objection of being too restricted in their signification. None of the extravasated blood may lie behind the uterus, and very rarely, if ever, is it all round the uterus. Professor Braun has published a clinical memoir on "The Pathogeny of *Retro*-Uterine Hæmatocele," and yet, in four out of the ten cases which he reports, the sanguineous effusion was "*antero*-uterine." In what are supposed to be the vast majority of cases,—those, namely, in which the extravasation is intra-peritoneal,—the bloody effusion has no more particular relation, anatomically, to the uterus than to any other pelvic viscus; whilst, in regard to its pathological cause, it stands far removed from this organ.

I think, therefore, it is more consistent with good nomenclature, and more calculated to prevent confusion, to describe this disease under the name which heads this memoir, viz., Pelvic Hæmatocele, which simply implies an extravasation of blood in the pelvis; and to confine the term Uterine Hæmato-

cele to extravasation of blood into the substance of the uterus,—an accident of a very different kind, and of which I will treat in the next memoir.

Though we speak of this effusion as if it constituted the disease, we must remember that it is in reality only a symptom or effect of some pre-existing pathological condition. Could we discover in every case the particular cause of the hæmorrhage, it might influence our prognosis, our therapeutic measures, and also our nomenclature. But such precision is hardly attainable in the present state of our knowledge; and as the pathological significance of this accident far outweighs that of the lesion from which it springs, there is no good reason for desiring to substitute any other name for the disease. We find it very convenient to speak of hæmoptysis and hæmatemesis, as though they were essential and independent diseases, whereas, in truth, they are but symptoms or effects of disease. I cannot at all agree with M. Bernutz, that to discover the existence of a pelvic hæmatocele constitutes only the half, and the less important half, of the diagnosis: on the contrary, it is, I should say, by far the more important half; for if we overlooked the hæmatocele, and were cognizant only of the morbid condition from which it has arisen, what errors of prognosis and treatment might we not commit?

This lesion is not of extreme rarity; nevertheless, it has only recently been brought to light, and assigned a definite place in the catalogue of female complaints; and although much has already been done towards elucidating its pathology, much yet remains to be done. The whole subject possesses not only novelty but very deep interest, from its high degree of importance. We have learned from the researches of modern pathologists, "the existence" (to borrow the language of Dr. West) "of a previously unknown hazard attendant on disorders of the sexual system in women: that not merely may intense congestion lead to profuse and dangerous floodings, or functional disturbance issue in inflammation of parts in the vicinity of the uterus, but also that vessels may give way, and hæmorrhage take place inwardly, in

situations where it is hard to discover, and still harder to suppress." We see that hæmorrhage of some kind or other plays a most conspicuous part in all the derangements of the female generative organs, both in the gravid and non-gravid states. Besides the discharge of blood from the interior of the uterus, we find that during pregnancy or labour extravasation of blood may take place into the cervix uteri, the pelvic cellular tissue, or the substance of some of the external genitals, thus forming a thrombus or hæmatocele in these parts. Recent investigations have now revealed to us the possibility of dangerous sanguineous extravasation taking place in the non-gravid state, from some of the *internal* organs of generation.

For the earliest notices of pelvic hæmatocele we stand indebted to the researches of French pathologists. MM. Recamier, Velpeau, and Bernutz would seem to be the first, or certainly among the first, who have made us acquainted with it. At the same time, it is but right to state that Ruysch, about the year 1691, recorded the *post mortem* examination of a woman who died whilst menstruating, and blood was found in the peritoneal cavity, and adhering to the ovary. Within the last twelve years the disease has engaged a great deal of attention in France, and been carefully investigated by several physicians and surgeons of eminence, specially MM. Goupil, Nélaton, Voisin, Robert, Vigues, Puech, Oulmont, Nonat, Trousseau, Becquerel, Genouville, and some others. In England Dr. Tilt, and subsequently Drs. Bennet, C. West, and Simpson, were the earliest observers of pelvic hæmatocele; and in this kingdom the first recorded case, I believe, was that published in the *Dublin Hospital Gazette* for 15th of June, 1860, and which will presently be detailed. Since the lesion became recognized a very considerable number of undoubted examples have been published. If to these we add the cases where its existence was highly probable, the sum total is very large. It is reasonable, therefore, to infer that the disease is not of such rarity as was at first supposed. Indeed I can call to mind a few cases occurring in my own practice, which at the time were obscure

and perplexing, but which, I have now little doubt, were examples of pelvic hæmatocele, and upon this supposition only, can I explain their course and symptoms.

The *sources* of the hæmorrhage would seem to be various. In the first place, the blood may be discharged from the Fallopian tube, being either an exhalation from its mucous membrane (Trousseau), or coming through this duct from the interior of the womb. In the latter case it is not necessary that occlusion of the os uteri should exist. Retention of the menses has also led to bursting of the oviduct, and consequent formation of pelvic hæmatocele. *Secondly*, the blood may come from the ovary itself, at the time of spontaneous ovulation, either in consequence of disease of the organ, or of unusual hyperæmia. Dr. Tilt and Dr. Genouville argue strongly in favour of this source of the hæmorrhage, and the latter physician founds upon it a distinction, very useful I dare say, in a practical point of view, viz., *catamenial* and *accidental* hæmatoceles; the former being the more frequent, and more liable to a recurrence in the same individual. A modification of this theory has been put forward by M. Gallard, who supposes that very many cases of pelvic hæmatocele are due to the pressure of an ovum which had missed the oviduct and dropped into the peritoneum; so that in fact they were examples, strictly speaking, of extra-uterine gestation. *Thirdly*, Dr. Puech has drawn attention to laceration or rupture of the utero-ovarian vascular plexus, as a cause of the extravasations of blood. *Fourthly*, the hæmatocele may be produced by a simple sanguineous exhalation from the peritoneum, thus being in some degree analogous to the disease known by the name of hæmorrhagic pleurisy. M. Tardieu has described a few cases which would seem to be of this kind.

Lastly, the intra-peritoneal effusion may be but one of the effects of a general hyper-secretion of blood from the genital organs; a species of hæmatocele to which M. Bernutz applies the epithet "metrorrhagic;" and which is accompanied at the time of its formation by an excessive menstrual discharge from the vagina. It is important to observe, that pelvic

hæmatocele may be produced under the most opposite conditions, viz., in the complete absence of menstrual discharge, and where this is unnaturally profuse. In the majority of cases that have been put on record, the hæmorrhage has come from the ovarian vessels at the menstrual epoch. The quantity of blood which has been effused in some of the instances was very great. Of this I shall have occasion to mention a striking example.

The cases where the hæmorrhage has taken place within the peritoneum, have been distributed under two heads, viz., the *encysted* and the *non-encysted*. In the former, the extravasation is smaller in quantity, and arises slowly, so as to give time for the circumscribing of the effusion by lymphy exudation and adhesions. This is much the more common variety. In the *non-encysted* variety, the amount of extravasation is very great, and takes place rapidly, so that the danger to life is imminent, and death generally ensues as the effect of the shock, or in consequence of the profuse loss of blood. The *extra-peritoneal*, or sub-peritoneal, variety of hæmatocele is considered to be less dangerous than the other. M. Nonat attaches much weight to this distinction of intra and extra-peritoneal hæmatoceles. "In the latter case," he says, "the tumour forms behind and below the os tincæ, pushing it forward; and the swelling itself, when seen from the vagina, has a violaceous color, which he regards as a sign of considerable importance for the diagnosis." Some of the French pathologists, who have given attention to this subject, entertain doubts as to the possibility of a uterine hæmatocele forming outside of (or underneath) the serous membrane. The major part, however, recognize the two forms; and some even affect to be able to diagnose between them during life. M. Bernutz is one of those who strongly contend, that the sub-peritoneal, or extra-peritoneal variety of pelvic hæmatocele is only met with during pregnancy or the puerperal state; and he stoutly maintains that there is not on record a single irrefragable example of its occurrence at any other time. His opinion upon this point is entitled to the highest respect, as he has studied the whole subject of pelvic hæma-

tocele with the closest attention, not only in the writings of others, but at the bed-side and in the dissecting-room. The existence of this extra-peritoneal form of pelvic hæmatocele has been very seldom verified by *post-mortem* examination; but if, as may naturally be supposed, it is a less dangerous form than the intra-peritoneal, the opportunities of demonstrating its presence in this way must be more rare. The latest writer on pelvic hæmatocele, viz., Dr. Matthews Duncan, of Edinburgh, states, that this has always appeared to him to be, probably, a common form of the disease.

It is interesting to know, what are the efficient or *exciting causes* of this pelvic hæmorrhage. They would seem to be very numerous. Sudden suppression of the catamenial discharge; violent bodily efforts, or intense mental emotion; over-fatigue; excessive or rude coition, or sexual congress at the menstrual period; external injuries to the abdomen; premature exertion after miscarriage; violent straining; all these appear to have acted as exciting causes of the hæmatocele. Physiology teaches us, and experience abundantly confirms it, that the menstrual epoch is the time at which the extravasation is most easily produced; and that an exciting cause, which would at any other time prove harmless, may now provoke it.

The leading *symptoms* which present themselves after the occurrence of this accident are, hypogastric pain and tenderness with febrile action, succeeding to menstrual derangement, sometimes amenorrhœa, but more frequently menorrhagia preceded, perhaps, by a temporary suppression of the menstrual discharge. A tumour suddenly develops itself in the hypogastric or iliac region, or behind and partly below the neck of the uterus. At first this tumour is soft and fluctutating, but at a later period has more firmness. Tenesmus and irritability of the bladder are frequently present also. The character and intensity of the symptoms will mainly depend upon the mode of inception which the disease exhibits. Studied from this point of view, pelvic hæmatocele may be said to have three forms, or, to speak more correctly, three *modes of invasion.*

In the *first*, and most severe form, the onset of the symptoms is sudden and overwhelming. The patient is abruptly seized with abdominal pain and rigor, succeeded by utter prostration of strength, cold extremities, pallor of the countenance, which is anxious and pinched; the pulse is rapid, weak, and thready; and the general surface of the body becomes deadly pale. In fact, the patient presents all the symptoms which characterize intense nervous shock, with the addition of violent cramp-like pains in the lower belly. The danger to life under these circumstances is imminent. The amount of sanguineous effusion in this class of cases is generally very large, or attended by laceration of some of the pelvic structures.

Secondly, there is a class of cases where the seizure, though plainly marked, is yet unaccompanied by symptoms so alarming or so severe as those just described. More or less rigor, abdominal pains, and faintness are present, but not in such degree as to menace life, or to indicate any immediate danger. We might justly term this an acute invasion, or acute form of the disease; whilst, for sake of contra-distinction, the former might be called the intense form.

Lastly, there is a sort of chronic form, the symptoms being developed very gradually, and in succession. These are cases where the diagnosis is beset with most difficulty, and there is a great liability of confounding the disease with pelvic abscess, or ovarian tumours. In each of these forms the symptoms I have traced belong to the initiatory stage, and attend upon the extravasating of the blood. It is possible, therefore, as experience has amply proved, for the same case to exhibit two of these groups of symptoms. In Case 1, for example, there were, undoubtedly, two attacks, or two successive effusions, the one characterized by chronic, and the other by acute symptoms. In Dr. Madge's case, to which allusion will presently be made, there were also two attacks at an interval of some days; the first attack was an acute one, and in the second attack the symptoms might justly be referred to the first or intense form of invasion. It may be laid down, in a general way, that the ulterior course and

symptoms of the disease will take their character from its mode of inception.

We see then, that the symptoms closely analysed are found to be those of peritonitis, more or less acute, of the lower belly; to which is added the rapid development of a tumour behind the uterus or in the hypogastrium, and commonly in both these situations. The existence of this tumour constitutes the most characteristic feature of the disease. It is very important, therefore, to study well its pathognomonic signs. Although the extravasated blood, in the great majority of instances, presents all the sensible qualities of a tumour, of some sort or other; still these qualities are not of necessity present in every case from the beginning, and this should be borne in mind. The possibility of feeling this tumour from the earliest stage is considered a matter of certainty by nearly every writer upon this disease. M. Sireday has published a case, however, which completely subverts this opinion. It occurred under the observation of M. Aran. The woman presented the symptoms of intra-abdominal hæmorrhage, but no trace of retro-uterine tumour could be detected by internal examination, during life or after death. On laying open the abdomen, the pelvis was entirely filled with blood; and this peculiarity was observed—the coagulum was not in any way bound down or encysted by adhesions or lymphy effusion of any kind. In reference to this case, M. Bernutz very justly observes, that it should put us on our guard against too hastily concluding that there is no sanguineous extravasation, because there is no perceptible hypogastric or retro-uterine tumour, or because the tumour is slow in developing itself.

The peritonitic symptoms are easily enough recognized; and the tumour is generally discoverable on superficial examination. We may satisfy ourselves that it contains fluid, but whether this fluid be blood, serum, or pus cannot, I believe, be positively determined by the most delicate sense of touch. When such accomplished surgeons as Malgaigne and Nélaton have been deceived on this point, there can be no security against error by this mode of examination. Hence it is of

paramount importance to investigate most minutely the *commemorative signs* and the order of their appearance. Especially should we carefully enquire if the tumour *rapidly* developed itself after the onset of the inflammatory symptoms. This is a point of great consequence to establish in regard to the diagnosis.

In the physical examination of the tumour, we should endeavour, in the first place, to define its boundaries; and, secondly, to ascertain whether its contents be solid or fluid. Here, as in many other cases of difficult diagnosis, we may approximate very near to discovering what the case really is, by ascertaining what it is not. We must endeavour, therefore, to make out the negative as well as the positive characters of the tumour. For this purpose, careful explorations should be instituted by the rectum, by the vagina, and above the pubes; and the external and internal examinations should be combined. An important character belonging to the hæmatic tumour is, that it presents a succession of changes in its density; and, consequently, in the sensation which it communicates to the touch. Soon after the effusion has taken place, there is a more distinct sense of fluctuation in it than at any subsequent period. Some days later this is replaced by a doughy feel, and still later, the tumour has an increased density, or feels hard in some particular spots, and fluid in the parts adjoining, owing to the separation of the coagulum into solid and serous portions.

The *size* which the tumour may attain in the abdominal cavity will altogether depend on the quantity of blood extravasated. With regard to its *position*, it may occupy the median line, or lie in either iliac region, or in both iliac regions with but little enlargement above the pubes. The swelling may be tolerably well marked, but its degree of density, and its exact limits cannot be clearly defined in consequence of the tenderness generally present, and the irritability of the abdominal muscles. Inferiorly the tumour presses on the vagina and rectum. As the result of this pressure on the vagina, this canal is encroached upon, and a prominence is formed on its upper and posterior part, offering some hin-

drance to our reaching the os uteri with the finger. The cervix is displaced forwards and against the symphysis pubis or to either side, according as the tumour may hold more or less of a central or lateral position. The os uteri is generally higher up, and farther removed from the vaginal orifice, though on rare occasions this state of things is reversed. If the bulging forward of the posterior vaginal wall be very considerable, the finger will meet with resistance in reaching the uterus. By the pressure of the tumour backwards the rectum is flattened or compressed against the sacrum: and this takes place sufficiently low down to be perceptible to the finger. By introducing the left index finger into the rectum, as the woman lies on the left side (or the right index if she lies upon her back,) and the thumb of same hand into the vagina, we may often succeed in determining the thickness and density of the intervening portion of the tumour and whether there be any fluctuation in it or not. Recamier strongly insisted on the utility of this mode of exploration, and Dr. Tilt also speaks highly of its value, and cites some cases exemplifying this. Dr. Tilt has given it the name of "double-touch," and says it is particularly useful in enlightening us respecting moderate sized tumours, which are not large enough to rise above the brim of the pelvis, and may be small enough to escape identification by the finger in the rectum or vagina.

There is yet another expedient from which we may derive material assistance in forming our diagnosis, viz., the use of the exploring needle. It should be passed into the tumour where this is most prominent in the vagina, and thus we shall at once be able to find out what it contains. This decisive means should not be resorted to hastily or on light grounds, but only in obscure cases and where accuracy in the diagnosis is of essential importance. Neither should it be employed if there exist any possibility of the tumour being a retroverted gravid uterus.

There are different diseases for which pelvic hæmatocele may be mistaken, and the resemblance is sometimes so close that we can only distinguish between them by a patient investiga-

tion of all the commemorative symptoms and physical signs, individually and collectively. The diseases with which it is most apt to be confounded are the following:—

1. Retroversion of the uterus.
2. Pelvic cellulitis.
3. Ovarian tumours.
4. Extra-uterine gestation, and
5. Fibrous tumours of the uterus.

Now let us see what are the most reliable semeiological points of difference between pelvic hæmatocele and each of these complaints.

1. The sudden development of the tumour behind the vagina and the general pelvic uneasiness succeeding to this have caused pelvic hæmatocele to be mistaken for retroversion of the gravid uterus. But the far greater severity of the symptoms in the former complaint, the absence of dysuria and of the signs of pregnancy, and above all, the information derivable from a very cautious use of the uterine sound, should always suffice to guard the practitioner from committing such a fault. If the symptoms at all favour the suspicion of pregnancy, of course the sound should not be employed. As retroversion is the more common accident of the two, the error most likely to happen—and which has happened even in skilful hands—is that of mistaking hæmatocele for it.

2. A more excusable error is that of confounding pelvic hæmatocele with pelvic cellulitis; and there is sometimes a close resemblance between these complaints. In each of them there are symptoms of local peritonitis, with fever, and the formation of a tumour. Nevertheless there are some important points in the histories of the two cases wherein they differ. Cellulitis, for example, most frequently succeeds to childbed; the tumour is slow in its formation; is always hard at first, and at a later period may, or may not, become soft; it is most often situated in one or other iliac region, and very rarely behind the cervix uteri; and the febrile symptoms always and distinctly precede the marked development of the tumour.

This is just the description of case in which the commemorative signs must be taken in connection with the physical signs, to insure accuracy of diagnosis. If the case has been under our observation from the commencement, little or no difficulty will be experienced in recognizing its real nature; but where it comes before us for the first time in the chronic stage, and that reliable or particular information as to its previous history is wanting; then, indeed,there may be ample cause for perplexity. MM. Nélaton and Bernutz, —both most experienced observers and very conversant with this disease,—have each, under the circumstances last mentioned, mistaken pelvic abscess, for pelvic hæmatocele. Nélaton punctured the tumour through the posterior wall of the vagina; an immense quantity of pus, not blood, was discharged, and the woman recovered. The other patient died, when an enormous collection of matter was found in the hypogastric and left iliac regions. This had formed a tumour extending up to near the umbilicus.

3. Ovarian cysts of small size sometimes descend into the retro-uterine pouch of the peritoneum, and may by adhesions or otherwise become confined to this situation so that their dislodgment cannot be easily effected. With this state of things should any active inflammation be set up in the cyst or its immediate vicinity, a practitioner ignorant of the existence of the ovarian tumour, might be greatly puzzled about the true cause of the symptoms. A fluctuating feel in the cyst, and the absence of any hypogastric tumour might assist him to a right conclusion, and a few days' observation would probably remove all doubt. Practically this delay at arriving at a diagnosis could not be productive of harm, as the treatment in either case would be much the same. If it became a matter of importance to solve the question, this could be done at any moment with the assistance of an exploring needle. Professor Braun's experience leads him to regard exploratory puncture as the only absolutely sure means of diagnosing between ovarian tumours and pelvic hæmatocele.

It is important to keep in mind, as bearing on the diagnosis, that in nearly every case a tumour is developed behind and below the os uteri, from the blood gravitating

down into the pouch of Douglas. It is extremely rare for an ovarian cyst to hold precisely this situation. More generally it is to one side or the other, and tends to displace the uterus downwards, and toward the side of the pelvis opposite to that in which the tumour is developed.

4. Rupture of the cyst in extra-uterine fœtation is an accident which may be followed by a train of severe pelvic symptoms, in no way distinguishable from those of hæmatocele. The prognosis would be certainly much graver, as rupture of the gravid cyst is almost always followed by death: but beyond this I do not see that failure to discriminate between them would be of any material consequence. As a general rule we might expect more alarming symptoms to supervene on the giving way of a gravid extra-uterine cyst; and if such symptoms developed themselves in a patient who had previously manifested well marked indications of pregnancy, the highest degree of probability would then exist that the case was one of extra-uterine gestation ending in rupture of the cyst.

5. One unacquainted with the infinitely varying phases of disease could scarcely think it possible that any confusion of diagnosis could ever arise between fibrous tumours of the uterus and pelvic hæmatocele. Nevertheless serious difficulty may present itself on this head. M. Bernutz alludes to a case under M. Goupil at the Hotel Dieu, in which the differential diagnosis between fibrous tumour of the uterus and pelvic hæmatocele could not be established, so many features did the case possess in common with both these diseases. M. Malgaigne, and Professor Stoltz (of Strasburg), have each committed the error of mistaking a pelvic hæmatocele for a fibrous tumour of the uterus. Malgaigne actually proceeded to remove the supposed fibroid by enucleation, and with this intention made the preliminary incision of the os uteri, when the hæmatic cyst was opened and the true nature of the case brought to light. The patient died in eighteen days afterwards. It is important to note, that in each of these cases the retro-uterine tumour, caused by the effused blood, presented no exceptional physical character: it was soft and fluctuating as

hæmatocele always is. M. Stoltz's patient also died, and the existence of the hæmatocele was discovered at the necropsy. So confident was he she had a uterine fibroid, that he made her case the subject of several lectures on the disease of which she was supposed to be an example. For some time before the acute symptoms seized her, the patient of M. Malgaigne had several attacks of simple metrorrhagia; and this strongly corroborated the idea of a fibrous tumour being seated in the uterus; which tumour, it was supposed, had been the cause of the hæmorrhage and of the pelvic peritonitis.

After all, many cases will arise, in which the diagnosis cannot be positively established without ocular evidence; that is to say, without the use of the exploring needle. This will be particularly useful in enabling us to distinguish between pelvic hæmatocele and an inflamed retro-uterine cyst. In their history, symptoms and physical signs, these two lesions will sometimes bear the closest resemblance to each other; and more difficulty may be experienced in discriminating between them, than between pelvic hæmatocele and any other of the diseases simulating it. Thus, for example, a young, married woman, was seized with hypogastric pain and tenderness shortly after a menstrual period. About five or six days from the setting in of these symptoms (for which she could assign no cause), I saw her. She was feverish, had considerable pain and tenderness above the pubes, but no tumour could be distinguished here. In the space between the uterus and rectum, was a tolerably firm tumour, the thickness of which could be easily felt by the double-touch. The cervix uteri was strongly pressed forwards against the symphysis pubis, but the sound showed no displacement or enlargement of the body of the uterus. Now in this case extra-uterine pregnancy was out of the question; retroversion of the uterus was proved not to exist; and the duration of the symptoms was too brief for an abscess to have formed. Hence, then, the diagnosis manifestly lay between pelvic hæmatocele, and an inflamed ovarian tumour in the retro-uterine pouch of the peritoneum.

The exploring needle yielded a negative result, or rather seemed to show that the tumour was solid, and therefore of ovarian origin, which was verified by the result.

Dr. Simpson tells us that he has repeatedly used the exploring needle to detect the nature and contents of various kinds of pelvic tumours, when no other means of diagnosis were sufficient for that purpose. A grooved needle is the instrument generally used, and answers pretty well on most occasions. But a more perfect instrument is a fine trocar and canula; to the latter of which an exhausting syringe can be attached, whereby some of the fluid contents of the tumour, even though thick or viscid, can be drawn up and submitted to examination.

I may mention before leaving this part of the subject, that in an extremely limited number of instances, cystic tumours have been developed in the cellular tissue of the pelvis, behind the uterus. Should a cyst of this kind, whose previous existence was unknown, become inflamed, the case would bear a close similarity to pelvic hæmatocele, and might very easily be mistaken for it; and such a mistake was committed by M. Bernutz, as he himself informs us.

Let me now relate the particulars of a case of pelvic hæmatocele, which came under my own immediate observation. Its history was published in *The Dublin Hospital Gazette*, for 15th June, 1860.

Case 1.—*Pelvic hæmatocele: discharged per anum: recovery.* E. R. aged 27, a spare woman with dark hair, and the mother of four children, ceased to have her catamenia, but supposing herself to be pregnant, gave no further heed to their suppression. At the end of eleven weeks, dating from the time of her being last unwell, a bloody discharge took place from the vagina, and continued off and on for three weeks, when she was admitted, on account of this hæmorrhage, into one of the chronic wards of the Lying-in hospital. This was on the 27th of March, 1860. She presented rather an anæmic appearance, though the quantity of sanguineous discharge was then but trifling. There was no

perceptible enlargement of the uterus, nor notable change in the condition of the os.

She was confined to bed, and got some astringent medicine. On the 20th April, as the hæmorrhage had entirely disappeared for some days, she was, at her own urgent request, allowed to go home. I remarked on this day that her pulse was rather frequent, and she complained of some uneasiness in the hypogastric region. On making an internal examination, I detected a small elastic tumour, very sensitive to the touch, and about the size of a large walnut, behind the os uteri and between the rectum and vagina. It felt like the retroverted fundus uteri, but the uterine sound at once showed this supposition to be incorrect. Not having myself examined her before, I could not say how long this tumour existed. Ten days afterwards, namely, on the 1st May, she again sought and obtained admittance to the hospital. Her whole condition had evidently undergone a marked change for the worse, and her countenance had a more decidedly anæmic appearance, as well as an expression of pain. The pulse was 112, and almost thready; she was extremely weak; there was an utter loss of appetite, and she complained of severe pain in the lower belly. These symptoms, she said, came on the day, or day but one, after leaving the hospital. In the hypogastrium there existed a tumour stretching across from one iliac region to the other, and upwards to about midway between the pubes and umbilicus. It was tender on pressure, dull on percussion, and moderately firm; indeed it was doubtful whether there was not an obscure fluctuation in it, though at a later period no such sensation could be felt. This tumour was apparently the seat of all her pain. She was thirsty, but had no sickness of stomach. The former red discharge had returned, but in very trifling quantity, and not until the day of her re-admission. Wine was allowed her, and some simple expectant treatment was prescribed.

On the 4th of May, a large quantity of blood, partly coagulated and partly fluid, was discharged from the bowels; and the next morning it was observed that the hypogastric tumour had almost entirely disappeared. For a week after this she

suffered considerable annoyance from rectal irritation, and had frequent stools, consisting of blood, mucus, and fæcal matter. On the 10th of May, she was in every respect improved, and the pulse had fallen to 90. There was some hardness and soreness in the right iliac region; and behind the upper part of the vagina I still found some swelling and tenderness.

To control the more urgent symptoms of tenesmus and diarrhœa she got anodyne enemata, and infusion of calumba with lime water; whilst to support her strength she had daily a small allowance of wine. By the 25th of the month, she had made great progress towards recovery; all pain and fever were gone; her appetite had returned; she very seldom had any tenesmus; and the state of the bowels was rather the opposite to diarrhœa. Still there was slight deep-seated tenderness in the right iliac region, and some tumefaction behind the superior part of the vagina, and the stools occasionally exhibited traces of blood.

On the 8th of June, the catamenia reappeared in the natural quantity, continued for three days, and then ceased; the whole period passing over in the most normal manner. On 14th June, she was discharged. The report on this day states that she has been up for some days, and feels quite well. Scarcely a trace of tumour or hardness remained in front or behind the uterus.

Although this was the first case of pelvic hæmatocele coming under my notice, in which the nature of the disease was clearly established, still I have met with some other cases, which, at the time, seemed rather anomalous, but which I now believe were examples of the above disease. Before the discharge of blood *per anum*, I was a good deal puzzled about the diagnosis of the above case, though I could not reconcile the symptoms with the supposition of its being cellulitis, retroversion, or extra-uterine fœtation; but after the discharge of blood had taken place there was, I conceived, no longer any room for doubt or hesitation as to the real nature of the disease. The presumption that rupture of the cyst of an extra-uterine fœtation had given rise to the

symptoms, is highly improbable. When this accident (*i. e.* rupture of the gravid cyst) does take place, death speedily ensues in almost every instance. A leading or prominent feature of both these classes of cases, however, is the extravasation of blood.

The only indication of pregnancy in the case before us, was the absence of the catamenia for two periods. Now it is worthy of remark, that in a considerable proportion of the recorded instances of pelvic hæmatocele, amenorrhœa had existed for two or three months prior to the external hæmorrhage, or metrorrhagia as it may more properly be termed, which has in very many instances (as in the one just related) been present at the time the pelvic hæmatocele developed itself.

In the case narrated, the exact seat of the hæmorrhage—whether into the peritoneal cavity, or external to it—is a question which cannot be decisively answered, though I am strongly disposed to think it was intra-peritoneal. It appears scarcely possible that the blood could have permeated the sub-serous cellular tissue to the extent occupied by the tumour, unless it escaped from two or more remote points, which is not at all likely.

The history of the case would seem to indicate the effusion of blood to have been very slow and gradual, or to have taken place at two different times. On the 20th April, I found a retro-vaginal tumour, which subsequent events leave little doubt was of a sanguineous nature; and, on the 1st May, we found, for the first time, the hypogastric tumour. On careful enquiry I ascertained from her, that on the day after leaving the hospital (21st April) the severe pain in the lower part of the belly came on, and continued with increasing distress up to the time of her re-admission. The most probable interpretation then is, that in the first instance a very limited effusion of blood took place behind the cervix uteri; but that on her going out, walking about, and using exertion, the hæmorrhage recurred with increased violence, causing a full development of the symptoms belonging to the complaint. In respect to this double attack, the course

of events here resembles what took place in the case read by Dr. Madge, before the Obstetrical Society of London, at its meeting of 6th March, 1861. The patient, a married lady, aged 34, was seized on the evening of 2nd October, 1860, after two days' continuance of the menstrual discharge, with violent pains in the hypogastric region, continuing throughout the night and following day. This was treated as an attack of local peritonitis, and appeared to yield to the treatment. In a few days she was so much better that she was ordered tonics and generous diet. The red discharge which had continued during the attack, now seemed to be subsiding. She got up, and appeared doing well, when on 5th November she went out for a walk. After walking a short distance, the catamenial discharge suddenly returned in increased quantity, when she immediately complained of faintness, and had to be brought home in a cab. On arrival at home so great was the degree of collapse that she appeared dying, but rallied by and by. Although a large quantity of the effused blood came away *per rectum* some days afterwards, she eventually sank. Not many days before her death she got an attack of phlegmasia dolens in both legs, the left being first and more severely affected.

Whether the case about to be narrated was one of pelvic hæmatocele may, perhaps, be called in question. The diagnosis certainly lay between this and cellulitis; but, all the circumstances considered, I think it was most probably an example of the disease we are considering, the extravasation being of small amount and forming slowly.

Case 2.—*Pelvic hæmatocele ? Recovery.* E. G. aged 32, was received into one of the chronic wards of the Lying-in hospital, 26th September, 1860. Her third child is now fifteen months old; she nursed it for a year, when the menses returned. About two months back whilst menstruating, she was attacked rather suddenly with severe pain and tenderness in the lower belly, from which she was very ill, and was confined to bed, and visited daily by a medical man. He told me that he was a good deal puzzled about her case, but treated her for local peritonitis, to which it bore the

greatest resemblance. She has never recovered her health, nor ceased to have this soreness of the hypogastrium; and she has had some red discharge from the vagina very frequently though not profusely. She is thin and pale; pulse 98; appetite bad; belly not enlarged; parieties rather tense. There is a rounded tumour in hypogastric region, its summit being a little above the symphysis pubis. There is tenderness on pressure over this tumour, and on either side of it. There is also a moderately firm tumour behind and below the os uteri, which latter seems rather low down and pushed somewhat forwards. This swelling of the posterior vaginal wall is tender to pressure, and the color of the mucous membrane covering it is a shade darker than elsewhere. The sound passes readily into the uterus, penetrating to the normal distance, and in the normal direction—except that the fundus is slightly turned towards the right side of the pelvis.

On the 28th of the month Dr. Churchill very carefully examined this patient along with me, and coincided in the opinion that her history, together with the physical signs now present, could best be accounted for on the supposition of the case having been one of sanguineous extravasation.

She was confined to bed and got infusion of calumba, and hydriodate of potash. On the 23rd October her general condition was much improved, and the hypogastric tumour reduced in size and sensibility. She abruptly left the hospital the same day, in consequence of the illness of some of her family, but a week afterwards (30th October) I saw and examined her. The tumour above the pubes was no longer perceptible, but the one behind the cervix remained; it was firm and smooth. She had pain during sexual intercourse. I regret to say I had no further opportunity of physically examining this case. On 24th December I saw her (at her own lodgings), and she told me she was quite well. In March, 1861, I saw her again, and she was greatly improved in appearance, menstruating regularly and moderately, and being quite free from all pain or uneasiness in the belly or vagina.

Although I have stated that Dr. Churchill and myself leaned to the opinion that this was an example of pelvic

hæmatocele, still it must be admitted that the subsequent history of the case does not place this opinion beyond question, though it certainly gives no contradiction to it.

The ages of the two patients whose cases I have related were, respectively, 27 and 32. In one third of all the recorded cases, the ages of the patients lay betwen 25 and 30; and in no instance, I believe, has true pelvic hæmatocele occurred before or after the menstruating era of life.

The course of events succeeding to the extravasation varies considerably in different cases. Let us enumerate the different issues of these cases:—

1. As already mentioned, life may be destroyed within a very short period after the accident, the patient dying from the effect of the shock to the nervous system, or succumbing to the hæmorrhage. Examples of this termination are not very rare.

2. The symptoms of local peritonitis having been subdued, the effused blood may be taken up by the absorbents, and perfect recovery ensue within a few weeks. In Case 2 we have, I imagine, an example of such an event. According to M. Voisin this issue occurred thirteen times out of twenty-three cases of pelvic hæmatocele. In seven of the cases the duration of the complaint was noted, viz., twice it lasted for six weeks, thrice for four months, once for six months, and once for eight months.

3. The effused blood may find its way into the intestinal canal, and be discharged per anum, and the patient recover soon afterwards. This result, which is well illustrated by Cases 1 and 3, is not uncommon: it took place in five of the cases (twenty-three in number) cited by Voisin, and in one of them, as in Dr. Madge's case, was followed by death.

4. The spontaneous discharge of the effused blood by the vagina has taken place in a very limited number of instances. Twice it occurred in Voisin's collection of cases.

5. Peritonitis to a greater or less extent occurs in nearly all cases of pelvic hæmatocele, and may carry off the patient at any period in the progress of the complaint. Thus Voisin has four times noted this mode of fatal termination. In one

instance it took place on the tenth day from the production of the hæmatocele; once on the fifteenth day; once at the end of three months; and in one instance at the end of four months. Hence we see that there is no period in the progress of a case of pelvic hæmatocele at which peritonitis may not arise, and the patient die of this complication.

6. The inflammation which is set up as the immediate effect of the accident may end in abscess; or, what perhaps is more common, the hæmatic cyst itself takes on suppurative action, and pus, as well as the broken down coagulum, comes to be discharged by stool. This protracts the cure very much, or may lead to an unfortunate result, the patient gradually sinking (as happens occasionally in pelvic abscess) under the combined effects of continued irritation, purulent discharge, and dysentery. Such was the issue of the following case, which fell under my notice in the Spring of 1861.

Case 3. *Pelvic Hæmatocele, contents discharged per anum: abscess: death.* A healthy unmarried woman, aged 23, was attacked on the third day of menstruation with a feeling of weight in the abdomen and bearing down not actually amounting to pain, sickness of stomach and fainting. She rallied from this state in the course of some hours, and was able to get up. Though not feeling quite well, she endeavoured to go about her ordinary business, but three days afterwards a violent pain sized her in the lower belly, followed by acute febrile symptoms, nausea, extreme tenderness and fulness of the belly, and constipation. At the end of a week a large quantity of dark grumous matter, resembling partially coagulated blood, was discharged by stool, with immediate relief to all her distress and uneasiness. Though the acute symptoms now subsided, she still remained weak and in an unsatisfactory state, traces of blood being visible in the stools for many days. Some weeks afterwards pus began to appear in variable quantity with the alvine evacuations; and attacks resembling dysentery, with much tenesmus, generally preceded these puriform discharges. A low kind of hectic fever made its appearance, she emaciated

slowly, and eventually sank, nine months from the first attack, the purulent discharge from the bowels continuing up to the last. I did not see her till the second or suppurative stage of her illness, and then there was no tumour or fulness in the hypogastric, or in either inguinal region.

This young woman had menstruated regularly from the age of fifteen, but at each period she suffered much pain. During the nine months of her illness the catamenia never appeared.

In a very considerable number of the recorded cases of pelvic hæmatocele the patients had previously suffered more or less from dysmenorrhœa. This is a point well deserving of attention. In fact, so large is the proportion of instances where difficulty of menstruation has preceded the hæmatocele, that we may regard dysmenorrhœa as one of the predisposing causes of the complaint.

In a therapeutic point of view pelvic hæmatocele may be said to have, generally, three stages, viz.,

1. The stage of shock or depression;
2. The stage of reaction and inflammation; and
3. The chronic stage.

These may not be equally distinct and well marked in every instance, while in some cases the first stage may be wholly absent,—decided nervous shock occurring only when the extravasation has been sudden and considerable. If we should happen to see a patient when in the state of depression which characterizes this first stage, it is very unlikely that we shall be able to diagnose the exact cause of the symptoms. All we can do, therefore, is to put the patient in bed as quickly as possible—laying her perfectly horizontal; to apply moderate warmth to the extremities; and to give stimulants, such as claret, port wine, or brandy, according to the degree of weakness and collapse that may be present. Even if assured (were such possible) that hæmorrhage was going on, I do not see what direct means would be likely to arrest it, unless, perhaps, large injections of cold water into the rectum and vagina. But, as the prostration is rarely, if ever, a result simply of the hæmorrhage, so these measures

would be quite uncalled for, or, more probably, hurtful in the extreme.

After reaction has come about, the usual indications of local peritonitis are to be looked for. Fever, pain and extreme tenderness on pressure in the hypogastrium, nausea or sickness of stomach, and constipation, &c., are the symptoms which now present themselves. These are to be combated by absolute quietude of mind and body, spare diet, the application of a few leeches if the tenderness be very acute and the patient not anæmic, and repeated small doses of opium, with James's powder and some mild mercurial. I have already observed that peritoneal inflammation is a complication to be apprehended at any time in the progress of a case, and not merely at the commencement. But whenever it should arise, the same principles are to guide us in the choice of remedies, and in the degree of activity with which they are to be employed.

In the treatment of pelvic hæmatocele in the sub-acute or *chronic* stage, two modes have been pursued, viz., puncture, and palliation; in other words a surgical and a medical plan of treatment. Though opposite, these are by no means incompatible. In every instance medical treatment must, to a certain extent, be employed, and in a small proportion of cases the question may fairly be started, whether *puncture of the cyst* ought not also to be performed.

Let me first say a few words as to the *medical* treatment, the primary object of which plainly is the absorption of the effused blood. Whether we possess any remedial agent capable of directly effecting this, is very questionable. The main points of treatment, I believe, at this time, consist in warding off inflammatory action by strict quietude of mind and body, the constant observance of the horizontal position, and careful regulation of the diet. Subordinate to this we may try the efficacy of mercurial plasters or frictions, and administer internally hydriodate of potash, and tonics. Much caution is required rubbing in ointments, or in employing friction of any kind; indeed this mode of medication can seldom be employed in these cases without risk. Good

may result from the use of tonics, when given with discretion and their effects closely watched; nor should they be commenced till after the fever has disappeared.

Now with regard to the *surgical* treatment, by which is meant the puncture of the cyst, I must be permitted to speak at somewhat greater length. Authorities are divided upon this, the most important point, in the treatment. But when we find surgeons differing as to the propriety of opening a common thrombus on the exterior of the body, we can hardly look for agreement in so grave a description of thrombus as that we are now considering. Nélaton, who has a good share of experience in these cases, and has given to the subject much attention, is more disposed to temporize than to use the trocar. Dr. C. West very candidly tells us that in "three of his cases, that alone excepted in which the effusion had already become a chronic evil, the puncture was followed by peritoneal inflammation, which was once of great severity; and the existence of the opening in the vagina, did not in that instance prevent the establishment of a communication with the bowels, and the discharge of a large quantity of blood per anum." Hæmorrhage from the wound (whereby so distinguished a surgeon as Malgaigne once lost a patient); a renewal of the hæmorrhage from its original sources; and peritoneal inflammation, would seem to be the principal dangers attending upon the artificial evacuation of the blood. The two latter are in some degree I think to be avoided by delaying to puncture till all the acute symptoms have subsided, or at all events, have become considerably abated.

If a large opening were made into the hæmatic cyst, and much of its contents removed, we might expect as a matter of course that air would enter, and putrefraction be set up, thereby rendering the patient's condition, worse probably than it was. M. Bernutz has collected twenty-nine cases of pelvic hæmatocele treated by puncture of the cyst; and twenty-two of these recovered, and seven died. In three of the cases which recovered, the operation was followed by very grave symptoms. These statistics are of but small value, in the absence of the results of cases treated on the expectant

and palliative method. M. Bernutz is very strongly opposed to the puncturing of these tumours, and discusses at considerable length his reasons for this opinion. He regards it as an "extreme resource," indicated only in cases where the state of the patient leads us to believe that the hæmatic cyst, in consequence of the inflammation attacking it, contains pus and blood, the spontaneous evacuation of which is not likely to take place in time to be of service to the patient. Among French surgeons the opinion seems to be gaining ground, that this operation should be confined to exceptional cases. It is right to mention, however, that a very high authority, Professor Braun, states that a rapid cure may follow the emptying of the hæmatocele by puncture. Of six cases so treated by him, all recovered; three were subjected to passive treatment, and also made good recoveries. Dr. Matthews Duncan, also, upon this point thus expresses himself: —"I feel sure it is often good practice to open the sac, and that, in many cases, it is the only good practice. In four of the cases recorded above I have every reason to congratulate myself on the interference resorted to. In all four it gave almost immediate, partial, and gradually increasing relief to the sufferers." In three of his cases the hæmatic cyst was punctured from the vagina, and in the remaining one he "tapped the abdomen in the ordinary way, about an inch and a-half below the umbilicus, and drew off 115 ounces of syrupy blood, showing, under the microscope, abundant pyoid corpuscles." With my present impressions I would not be inclined to resort to the trocar unless urgent symptoms were manifested in consequence of the bulk or mechanical pressure of the tumour; and not even then unless it were in the chronic stage.

PUDENDAL AND UTERINE HÆMATOCELES.

The tumours arising from extravasation of blood into the cellular tissue of the vagina, nymphæ, labia, perineum or adjacent parts, occur most frequently at the time of labour, and, on rare occasions, prior to the setting in of labor. Of British writers Dr. David MacBride, of this city, was the first to describe them. Merriman observes that they had been previously noticed by Veslingius in 1647. But long before this, namely, in 1554, J. Rueff, a surgeon at Zurich, had made mention of these bloody tumours of the external genitals. The first distinct treatise upon the subject, however, was an inaugural dissertation, bearing date, 1734, and entitled, *De Tumore Genitalium post partum Sanguineo;* the author of which was John Henry Kronauer, of Basle.

The *predisposing* cause of these tumours is to be found in the enormously hyperæmic condition of the genital organs during the gravid state, and whilst the nutrition of the fœtus is going forward. Where the vitality of the fœtus has been destroyed, the intensity of this hyperæmia diminishes: there is not the same need or attraction for this extraordinary supply of the vital fluid. I have even had ocular proof on a few occasions that this great determination of blood to the generative organs undergoes some diminution after the death of the embryo, the deep bluish tint so characteristic of pregnancy, not only having disappeared from the vulva, but the general congestion of the parts having lessened.

This took place in cases which had been inspected before the child died, and in whom, therefore, opportunity was afforded for making a comparative observation.

I believe we may safely lay it down as a general rule that the hæmorrhage is of a venous origin, and that this accident has for its *exciting* cause, pressure or violence of some kind exerted on the part, either by the head of the child *in partu*, or by direct external injury. At the same time it must be admitted that such a cause for its production is not absolutely necessary. A case will be related further on, where a hæmatocele formed before labor, independently, it would appear, of any local injury. And it sometimes forms during labor before the head has made direct pressure on the part. Here, however, we can readily understand how the descending head, exercising firm pressure upon the greater part of the circumference of the vagina, must materially impede the return of blood from its lower portion, and from the external genitals.

Most writers on this accident have supposed that a varicose state of the vessels of the vagina or vulva is a necessary, or very constant precursor of the rupture which permits the effusion of blood. This appears very plausible, but is not supported by facts. Out of *thirty-eight* cases of pudendal hæmatocele, collected and tabulated for me by Dr. Halahan, and including those which fell under my own observation,—I find only two cases in which a varicose state of the veins was noted as being present. Such a state of the veins is comparatively rare in first pregnancies; nevertheless, out of *twenty-five* recorded cases where the number of the pregnancy is mentioned, it was a first pregnancy in *thirteen* instances. It may further be mentioned that of the many patients with varices of the vulva, that I have seen, I do not recollect a single one of them getting a hæmatocele. Indeed I am almost inclined to think from these facts, that the distensibility of varicose veins may have the effect rather of protecting the patient against their rupture during the pressure, and the consequently impeded circulation of labor.

At all events, in accounting for the great effusion of blood that may occur, it is not necessary to suppose that varices exist.

One or other labium,—somewhat more frequently the left,—is the part most commonly engaged, and hence the names, (e.g. "bloody tumour of the labium," "labial thrombus," (&c. which have been given to this accident. These terms are obviously too restricted in their meaning, as the extravasation may take place into any of the parts within or around the vaginal orifice.

Let us consider this accident as it occurs,—

1. Before the commencement of labor;
2. During the progress of labor; and,
3. Upon the termination of labor.

1. I am not aware of any case where a thrombus formed spontaneously at the vulva in the non-gravid state. It may occur, however, as the result of direct violence to the parts, though very rarely: ecchymosis is the more common effect. Hunter, in his Treatise on the Blood, relates a case which was a very well marked example of thrombus in the left labium, produced by the patient falling over a pail, in such a manner that the whole shock of the fall was sustained by the labium on the handle of the pail. A large hæmatocele immediately formed, and burst some hours afterwards. This lady was not pregnant. That a violent contusion of the vulva, even in the non-gravid state, is capable of producing a hæmatocele, I lately had proof in the case of a young lady who was violently thrown from her phaeton, (in consequence of the horse running away,) a month after her first confinement. She sustained many injuries, among the rest the left labium received a blow, and within a very short time a thrombus formed here as large as a good sized egg. After a few days it burst on the internal surface, and slowly discharged its sanguineous contents. The swelling immediately began to subside, and at the end of a fortnight not a vestige of it remained. It is very probable that had this injury been inflicted at some later period, its effects would not have been so marked. But we know that the hyperæmic condition which belongs to the genital organs during pregnancy, has

not disappeared at the end of a month from parturition, nor for some weeks later.

The *spontaneous* occurrence of hæmatocele, even during pregnancy, is of extreme infrequency. The first recorded example, I believe, was that communicated about the year 1827, to the Royal Academy of Medicine, Paris, by M. Massot, Surgeon-in-chief to the hospital at Perpignan. The patient was in the ninth month of her pregnancy, when she was suddenly seized with a violent pain in the left labium, which rapidly began to enlarge, and having very soon acquired an enormous bulk, it gave way and discharged a quantity of blood. Under suitable treatment she went on very well, and labor did not set in for eighteen days, by which time she was nearly quite recovered from the effects of the thrombus. M. Massot could not discover any cause for the development of this tumour. He thought there might have been varices in the labium, as some of the veins on the thigh were enlarged.

Writing in 1851, the late Dr. Montgomery says: "Within the last year I saw a case in which a thrombus about as large as a good red plumb, formed in the left labium, in the seventh month of pregnancy, and gave the lady *intolerable annoyance*, so that on the 18th June I made a very small puncture into it, and discharged its contents; but on the 13th July, I was again sent for, and found her in a similar state of distress, from pain caused by a feeling of weight and tension, of which she complained most grievously. She described the sensation she experienced as resembling that produced by the pressure of the child's head when distend ing the perineum. I found the tumour rather larger than before, and again punctured it, after which the lady suffered no further annoyance. It did not fill again, and on the 24th of August she was safely delivered of a full-grown child. There was no appearance to mark the situation where the tumour had been; nor was there any attempt at its reproduction subsequently."

One well marked example of this spontaneous formation

of a pudendal hæmatocele before parturition, came under my own eye, and is here recorded.

Case 1.—*Spontaneous Pudendal Hœmatocele in the seventh month of pregnancy.* On the 12th November, 1860, a healthy fair complexioned woman, 27 years of age, was admitted to the chronic ward of the Lying-in hospital, on account of a swelling at the vulva, that was causing her very much pain, and had formed within the last seventy-two hours. She was in the beginning of the eighth month of her second pregnancy, and the fœtal heart was quite audible. Some days previously this woman had been at the hospital with a threatening of labor, and I had myself examined her, and then found the condition of the vulva and vagina perfectly healthy in every respect. On examining her now, however, we saw a tumour the size of a large walnut, of a deep purple color, protruding from between the labia. It was sensitive to the touch, tolerably firm, and took its origin from the anterior wall of the vagina, a very short distance from the meatus urinarius. Its colour was the same as the surrounding mucous membrane, and its temperature natural: she knew of no cause for this swelling; her husband was not living with her; and she had no varicose veins of the labia, thighs or legs. Had I not been confident of the total absence of any such like tumour up to a few days previously, the statement of the patient would hardly have satisfied me that this tumour was of so recent a growth, as three days. Dr. C. Johnson examined the woman with me, and we agreed that, as the tumour could not be a cystic or fibrous growth, and was not a phlegmon, it must be of the nature of a thrombus. The same night it broke, and discharged a quantity of coagula. The rent in the tumour was small and at the left side. After this it rapidly diminished in size and disappeared in the course of a week. She had some threatenings of labor, but they passed off. On the 14th December she was safely confined of a living girl, in Sir Patrick Dun's Hospital, where she had been admitted under the care of Dr. H. Kennedy, on account of an arthritic attack. On the

20th of the month I saw her with Dr. Kennedy: her convalescence was then going on satisfactorily.

These are the only cases I know of, where a hæmatocele was developed under like circumstances. That it should occasionally be produced during pregnancy, from the effects of contusion, is only what might reasonably be expected. In two of the cases recorded by Drs. Sinclair and Johnston, the extravasation had taken place some days previously to labor, in consequence of direct injury to the part. The following is a very striking example of a pudendal hæmatocele resulting from external violence.

Case 2.—*Pudendal Hæmatocele during pregnancy, from injury.* A woman seven months gone in her fourth pregnancy, was standing on a chair when she lost her balance, upset the chair, and fell "straddle legs" across the back of it. This took place late at night. She was brought to the Lying-in hospital at four o'clock the following morning, 5th October, 1861. The entire left labium, nympha, and adjoining part of the perineum were transformed into an enormous tumour, as big as a cocoa nut, and of a dark mahogany color. On the inside of this tumour there was a lacerated wound. She was weak, having lost a good deal of blood, and some bleeding was still going on, which was arrested by the application of gallic acid to the wound, and of cold to the rest of the tumour. The fœtal heart was heard the next morning.

The bowels were gently moved by medicine, and she got an anodyne every night, to check any tendency to uterine contraction. The tumour partly burst and partly sphacelated, on the inside, so that on the sixth day an enormous coagulum came away. The parts put on a clean and healthy appearance within a surprisingly short period after this, under the use of simple poultices. The greatest source of annoyance was the horrible fœtor, which was partially overcome by lotions of chloride of lime. She was able to return home perfectly well in the course of a fortnight. She went to the full term of pregnancy, and came back to the hospital for her confinement. She had an easy labor and quick recovery; the child was a girl, and was born alive and strong.

The uninterrupted continuance of gestation, under such a severe injury to the genital organs, and shock to the whole system, is very remarkable. It recals to my mind a case which I happened to see several years ago at Dundalk, with my valued friend Dr. Brunker of that town. A poor woman, four months pregnant, fell from the fifth step of a ladder. Unfortunately, an iron pot was lying upside-down on the ground underneath, and in her fall one of the legs of the pot inflicted a severe wound at the entrance of the vagina. A very profuse hæmorrhage ensued; and when we saw the patient, some time after, she was blanched, cold, and almost pulseless. By the continued application of pressure the hæmorrhage was effectually controlled. Stimuli were freely given; and as soon as she had rallied a little she was removed to the Infirmary, which was close by. Not only did she recover from the immediate effects of this injury, but she went to the full time, and was delivered of a living child.

That profuse hæmorrhage may take place from comparatively trivial *wounds of the pudenda during pregnancy*, is a fact of great importance, and never to be forgotten. Prof. Simpson mentions several cases, where fatal hæmorrhage had resulted from small wounds of the vagina; and he has shown that the accidental bursting of a varix in this situation may destroy life. Dr. Johnson was once called upon to remove the fœtus from the body of a woman, who had died of hæmorrhage in an advanced period of pregnancy. The source of this hæmorrhage was a small wound of the vagina received in a fall from off a chair. Professor Doherty, of Galway, has published the particulars of a highly interesting case, where a woman at the end of pregnancy died, after an immense hæmorrhage resulting from a small laceration in the upper part of the vagina. The placenta was attached over the lower segment of the uterus, and this must have rendered the supply of blood to the vagina still more abundant than is usual during pregnancy.

Casaubon reports the case of a woman thirty years of age, who received a severe kick on the buttocks when seven months gone with child. A tumour instantly began to form

at the lowest part of the vulva, and soon acquired the magnitude of an infant's head. A midwife, mistaking the thrombus for a prolapse of the vagina, set about pushing it up, when it burst, and gave issue to an enormous clot, followed by a hæmorrhage, under which the patient sank. (Deneux.) Peyrilhe tells us of a lady six months pregnant, who died of hæmorrhage from a transverse wound of the right labium, about one inch long. This wound was produced by a fall from a height.

Very lately I saw in the Adelaide Hospital, under the care of Surgeon Richardson, a patient who was three months pregnant, and had sustained an enormous hæmorrhage from a very small wound at the orifice of the vagina. This wound had been caused by falling on the leg of a stool, from a height of a few feet.

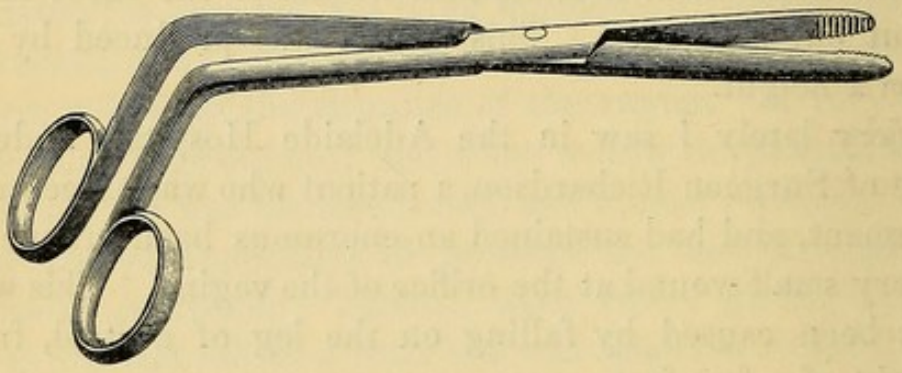
For the arrest of these traumatic hæmorrhages from the genitals during pregnancy, we must trust to the application of powerful styptics, e. g. gallic acid, solution of perchloride of iron, compound tincture of benzoin, &c. with direct pressure upon the part by means of a pad and T bandage. If the wound be within the vulva, plugging the vagina may have to be resorted to.

The *tampon* or plug may consist of French cotton, tow, sponge, old linen, or a silk handkerchief. I prefer the French cotton when obtainable. Whatever the material may be, it should be passed up gradually and not all at once. We can save the patient much of the annoyance and pain attendant upon the act of plugging by first introducing a moderate sized speculum (Ferguson's), and then pushing up the portions of sponge or wadding, or whatever it may be, through it with a speculum forceps (fig. 28), that is, an ordinary dressing forceps seven inches long, with the handles bent at an obtuse angle about five inches from the points of the blades.

According as the upper part of the canal becomes stuffed the speculum is withdrawn, and more of the material introduced till the whole vagina is filled. From twelve to twenty four hours is the usual time to leave in the tampon. I once,

in a bad case of abortion, left in the plug for fifty-six hours, without any ill effect; but this was an extreme case. There is one very important consideration regarding the use of the plug in all cases of pregnancy;—it has a strong tendency to induce parturient action. Hence we should not resort to it

FIG. 28.



Speculum Forceps; one half the size of original.

in this class of patients, without due and sufficient reason, (unless parturition be inevitable); and if compelled to employ it, we should effect its removal at the earliest moment: its presence for six or eight hours only, would probably suffice to stop the bleeding from any small wound. By the aid of the vulsellum represented at page 168, the tampon can be removed, bit by bit, with ease and celerity. Another mode of plugging the vagina,—very simple and generally satisfactory—consists in passing up one of Gariel's air pessaries (an indian rubber bag with tube attached) into the canal, and then distending it with cold water.

2. A pudendal thrombus may begin to form *during labor* and the period at which this most frequently occurs is the latter part of the second stage. Unless the delivery be soon accomplished the tumour may attain a very great magnitude, and constitute a serious obstacle to the exit of the fœtus. To this class of cases belong—as might *a priori* be expected, —many examples of pudendal hæmatocele of the largest size and most rapid development. Crosse, Weffels, Stendal, and others have recorded cases where the patient actually died undelivered, from the combined effects of the shock, and of the enormous hæmorrhage. Dr. Brunker, of Dundalk, was

once called to a case of this kind. On his arrival at the patient's bed-side, she had expired; the child's head was low in the pelvis, and the vulvar orifice was entirely blocked up by the thrombus which was of enormous size.

The *diagnosis* can never present any difficulty to a practitioner of even the most moderate experience. The sudden appearance and rapid development of the tumour, its situation in the substance of the labium or perineum, or both, the ecchymosed and deep purple color of the surface, and the attendant pain, all concur to stamp its character, under whatever circumstances it may arise. The labor pains sometimes cease, or diminish greatly in strength and frequency consequent upon this extravasation. The rate at which the tumour enlarges, as well as the size it may attain before bursting, are very variable; and the latter probably depends on the former. It may become as big as a fœtal head, in which case it not only involves the labium and nympha, but the perineum and adjoining integument of the thigh will enter into its formation, and the extravasated blood may penetrate deeply among the tissues of the pelvis, between the vagina and rectum.

On the first appearance of a thrombus forming in the course of labor, the delivery of the woman becomes a matter of prime importance. Until this can be done we must only try, as well as we can, to arrest the development of the tumour, by the application of cold and moderate pressure. If the fœtus be dead it should unhesitatingly be extracted with the crotchet, not alone on the general grounds of this being the safest mode of delivery for the mother, but in consequence of the special advantages arising in these particular cases from diminishing the bulk of the head prior to withdrawing it. If the child be alive, the delivery is to be effected either by the forceps, the vectis, or by version. If the head have descended into the pelvic cavity, the forceps, or perhaps the vectis, should, of course, be preferred: if the head be at, or above, the brim, it may then become a question whether version, or the "high forceps operation" is to be resorted to. Dr. Shekleton found it necessary, in a case of

this latter kind, to deliver by craniotomy. The patient had been twenty-eight hours in labor before her admission to the hospital; the pulse was 135; and the thrombus was large and occupied the right labium, which pulsated strongly. The head was completely above the brim. The thrombus began to slough on the third day, erysipelas supervened, and she died on the fourteenth day.

The sanguineous tumour may be so large as seriously to impede delivery, and in this case it might be necessary to open the tumour and turn out the coagulum. Prof. Meigs did this in one case, and then adjusted the forceps to the head, and "painfully, slowly, and with much effort, extracted the child, *which was dead.* The patient was sorely exhausted by such a dreadful labor. Her very bad pulse did not amend after the delivery; the injured parts were attacked with erysipelas, to which she fell a victim in the course of a few days." Drs. Johnston and Sinclair report a case where the tumour, which encroached considerably on the space of the outlet, was opened artificially before delivery; but the thrombus would appear to have formed some days previously. The labor ended naturally, and both mother and child left the hospital quite well. In any case where the tumour is still in the course of formation, the obvious objection to opening it, is the risk of immoderate hæmorrhage. Dr. Meigs suggests that "it would be charitable, and dutiful, and prudential, to lay open the mucous surface by an incision conducted in the longitude of the organ, and deep enough to give issue to the infiltrating blood:" but we think he will find few accoucheurs to agree with him in the propriety of this practice, except on very rare and special occasions.

3. In the largest proportion of cases of pudendal hæmatocele, the accident is first discovered within a short time after the birth of the child. The patient complains of an acute and peculiar pain at the vulva; this leads to an examination, when the bluish purple colored swelling already described, at once reveals the cause of her uneasiness. Sometimes there is a

wound or tear on the surface, so that blood is effused externally as well as internally.

Case 3.—*Pudendal Hæmatocele in third stage of labor.* A young woman was delivered naturally of her first child after a short and easy labor, the second stage of which lasted three hours. Immediately upon the birth of the infant, the right labium began to swell, and in five-and-twenty minutes had acquired the size of a hen's egg. It then gave way to a very slight extent on the inside, near to the anterior commissure. From this laceration fluid blood was discharged from time to time *per saltum*, a continuous oozing going on during the intervals. Napkins wrung out of very cold water were applied, and they controlled the external hæmorrhage, but did not stop the enlargement of the tumour, which went on increasing till its bulk equalled a large orange. The afterbirth did not come away for one hour, and then cold vaginal injections were used in addition to the outward application of cold. On the second day the tumour was universally dark in colour, approaching to black on the inside. When viewed, as the patient lay on her back, it presented a truly formidable aspect, extending the entire way from the mons veneris to the verge of the anus. It was the seat of considerable pain, and so sensitive that she could not tolerate the slightest touch. There was no retention of urine, strange to say. Emollient poultices were kept applied, and opiates given at night to allay the pain.

On the third day the tumour partially burst and discharged some small clots.

On the fifth day the slough separated from the anterior and internal surface of the tumour, and was thrown off, together with some large and very offensive coagula, leaving behind a huge chasm, which exhaled an abominably fœtid odour. A weak lotion of the solution of chloride of soda was occasionally used, and a linseed poultice was kept pretty constantly applied.

In the course of a few days the wound cleaned, the swelling subsided, and healthy granulations began to appear. The reparative process went on so satisfactorily, that at the end

of a fortnight scarcely any trace remained of the injury done to the part.

In the generality of cases—perhaps I might say in all cases—the extravasated blood is of venous origin. Dr. Ramsbotham met with one case in which the blood which flowed from the tumour was of so decidedly an arterial kind, as to deter him from following his usual plan of laying open the tumour and turning out the clot. In one of Dr. Shekleton's cases already alluded to, there was a pulsatory movement in the thrombus; and in Case 3, it has been remarked that the blood occasionally came *per saltum*, from the laceration in the side of the affected labium.

The following case occurred to me at the Lying-in hospital in 1855. Although it presents no striking feature, still the facts are worth being recorded.

Case 4.—*Hæmatocele of Left Labium, in third stage of labor.* A healthy woman aged twenty-three, was confined of her first child, a boy, alive, after a natural labor of thirteen hours. Shortly after her delivery a thrombus formed in the left labium, and, notwithstanding the free employment of cold, attained the size of a big hen-egg. On the fourth day it burst on the internal surface of the labium, leaving a large bloody cavity, which gave out a very offensive odour. This gradually cleaned and contracted, and by the end of three weeks the labium had nearly regained its normal size and condition.

I have already observed that the bloody infiltration may take place into any of the parts which go to form the vulva. In the following instance the perineum was its seat.

Case 5.—*Hæmatocele of Perineum, soon after delivery.* This woman's age was 29, and her labor occupied seventy-two hours. This great delay was owing to the rigidity of the os uteri, it being her first child. She was only ten hours in the second stage. The child was a boy, and was born dead. She was very violent and refractory throughout her labor, and could scarcely be restrained from doing herself injury. Soon after delivery,—which took place naturally,—a hæmatocele about the size of a walnut formed in the substance of

the perineum, the swelling caused thereby protruding into the vagina. It did not give rise to much pain or annoyance. It ran the usual course, bursting after the lapse of a few days and then healing rapidly.

I have never known both labia to be affected in the same patient, but one such case has been published by Deneux as having occurred in the practice of M. Sedillot. And the same author mentions two examples of pudendal hæmatocele in women pregnant of twins. In each of these cases the tumour made its appearance after the birth of the first child, and before that of the second.

The character of the labor seems to have very little influence upon the production of these extravasations. In nearly all the reported cases it was stated to have been short or easy, and the head the presenting part. In only one of my cases (Case 5), was the labor difficult.

The course of *treatment* I have pursued, and would venture to recommend, for pudendal thrombus, may, in a great measure, be gathered from the instances which have been detailed. Unless the tumour actually prove an insurmountable obstruction to parturition, I do not think it should be opened in the acute or formative stage. But at a later period, when it has ceased to enlarge, and the further effusion of blood is completely at an end, an incision into the tumour might anticipate by a few days the natural process of effecting the removal of the coagulum. If we could open the tumour and clear out its contents, without exciting hæmorrhage, this proceeding would be attended with some advantage: but hardly sufficient, I think, to make it worth while incurring the risk, especially as the treatment required for the subjugation of this hæmorrhage might be contra-indicated by the puerperal condition of the patient. It is but just to state that some accoucheurs of acknowledged eminence, for example, Dewees, Dubois, and Ramsbotham, are favourable to the practice of opening the tumour, and the cases treated by them progressed satisfactorily.

On the fourth or fifth day the tumour generally bursts spontaneously; and this rent almost invariably occurs at the

inside of the labium where the skin is thinnest. During this interval, prior to the discharge of the coagulated blood, the patient may suffer from retention of urine, and from pain of a severe kind. To relieve these symptoms the use of the catheter and the administration of opium must be resorted to; and, as the cold applications are no longer required, nor indeed safe, a soft linseed-meal poultice has sometimes had a soothing effect upon the tumour. After it has burst, the strictest attention to cleanliness is necessary, as the fœtor is intolerable, and to correct this a weak lotion of solution of chloride of soda, or of creasote, or a charcoal poultice, may be employed with advantage. Under this treatment the wound soon cleans, and the reparative processes go forward with astonishing rapidity. At a later stage dressing with basilicon ointment, and careful ablution twice or thrice a day, is all that is needed in the majority of cases.

This accident certainly seems to exercise a prejudicial influence upon the convalescence of patients. Setting aside the women who died undelivered—*four* in number—there were *six* who died of some puerperal disease, in *thirty-five* cases of this lesion. I cannot help thinking, however, that this must be rather an over-estimate of the general average of mortality among these patients. M. Deneux in his excellent *Mémoire sur Les Tumeurs sanguines de la Vulve et du Vagin* fixes the rate of mortality higher, even, than that just given. Of *sixty* cases which he had seen or collected from the writings of authors, the death of the woman took place on *twenty-two* occasions: in some before labor, in some after labor, and in the rest,—constituting by far the greater number—death followed the delivery.

Let me now turn to that very rare variety of thrombus, in which the lip, or the lower part of the cervix of the womb, is the seat of extravasation. To all such cases I would restrict the term *Uterine Hæmatocele.* The late Dr. Montgomery drew attention to this subject, in a short paper, published in the *Dublin Quarterly Journal of Medical Science*, for May, 1851. Denman, whose acute observation nothing escaped, had, however, distinctly noticed the accident. He writes,

"the uncoloured mucous discharge from the vagina, which pretty generally occurs before labor, on its accession is usually tinged with blood, or a small quantity of pure blood is discharged. This sanguineous discharge, which varies in quantity and appearance in different women, is popularly called a *show;* and it happens more particularly at two periods of a labor,—when the os begins to dilate, and when it is finally dilated. In the first instance, it is probably occasioned by the separation of a few of those vessels by which the membrane which connects the ovum to the uterus was originally bound; and, in the second, by the effusion of some blood before extravasated in the substance of the os uteri; for this part, in some cases, acquires an uncommon thickness from that cause, independent of any œdematous or inflammatory tumefaction."

The details of a very remarkable and extreme case of uterine thrombus, were submitted to the Dublin Obstetrical Society, at its meeting of November 1850, by Dr. George Johnston. The patient, a robust country woman aged 35, in her seventh pregnancy, was delivered of a female child, evidently some time dead, after an easy labor of four hours, the breech having presented. The placenta was expelled in about ten minutes. No hæmorrhage or untoward symptom of any kind supervened, and everything went on favourably for the first three days.

On the fourth day, at half-past one o'clock, "the nurse called me," writes Dr. Johnston, "in a great hurry, stating that the patient had been suddenly attacked with violent hæmorrhage. On enquiry I found that she had not been out of bed, nor had she been using any exertion. On reaching the bed-side (which was in less than a minute after hearing the report, and certainly not more than three from the first gush of blood), I found her lying on her back, countenance perfectly blanched, and expressive of great anxiety, which, with her neck, hands, and arms, was bathed in cold clammy perspiration. No pulse could be felt at the wrist; and the bed was inundated with blood, which was still flowing from the vagina." Prompt and judicious means were used to

control the hæmorrhage and recruit her strength. For a time it seemed as though these measures would be successful. The pulse returned to the wrist, and the discharge of blood from the vagina greatly diminished. This improvement was but of short duration, however; the flooding recurred, she again became pulseless, fainted, and rapidly sank, just one hour and a-half after the first attack of hæmorrhage.

At the necropsy the uterus was found well contracted down in the pelvis. "On the left side of the cervix, about one inch from the os uteri, was observed a ragged, sloughy-looking opening, the edges of which were very irregular, and of a black ash-grey colour. This opening, which was large enough to admit two fingers easily, communicated with a cavity the size of a small orange; it seemed to be formed in the substance of the cervix, and its external wall was found to be the projecting tumour before mentioned, as seen from the outside. On laying open this cavity, and washing away some loose clots (but carefully observing that there were no laminated coagula), the lining membrane was found rugous, of a firm consistence, and resembling very much the mucous membrane of the vagina. Opening into this sac were seen the mouths of five or six blood vessels, large enough to admit a small bougie." The preparation of this uterus is preserved in the museum of the Lying-in hospital. I had an opportunity of examining the parts in the recent state, and have little doubt that the case was one of thrombus forming in the structure of the cervix uteri, and bursting on the fourth day after parturition,—the usual time when these bloody tumours give way. The displacement of the coagulum which had temporarily closed the mouths of the lacerated vessels, occasioned a renewal of the hæmorrhage, and in such quantity as to destroy life.

Without a *post mortem* inspection of the body, we should have remained in ignorance of the existence of the peculiar lesion which was found in this case. How often such a lesion may have been present in fatal cases of secondary hæmorrhage it is impossible to say, as this form of hæmatocele would easily escape detection during life. In the

writings of my friend Mr. Roberton, of Manchester, I find the history of a case, (communicated to him by his colleague Mr. Clough), which bears a very striking resemblance to the foregoing one, if not absolutely identical in its nature with it. The case is altogether one of extreme interest, and as it is very succinctly reported, no apology need be offered for reciting it. "Mary P. aged 25, delivered of her third child, November 4, 1834: a hand presentation. Turning was easily effected; but in extracting the child, the head was incautiously allowed to catch upon the brim of the pelvis, the face being directed rather forwards towards the pubes, the chin resting above the left obturator foramen. This position of the head was rectified, when it descended, and was expelled rather quickly, by the natural efforts. The placenta was expelled without any unusual symptoms, and the patient had not much uterine discharge, but she soon began to complain of pain and tenderness on pressure in the left hypogastric region, for which she was ordered between forty and fifty leeches. Her pulse was never much excited nor had she any vomiting. The tenderness and pain did not entirely subside, but were confined to a small part of the left hypogastric region. There was no distension of the abdomen, and the bowels were regular.

After the first four days she seemed to be recovering well when, on the eighth day, she was seized with some vomiting, and towards evening a sudden and very copious flooding came on. This continued until morning, large clots escaping; the quantity lost, I should think, could not be less than two or three pounds. I saw her early the morning after the ninth day from her confinement; the hæmorrhage had then ceased; her extremities were cold, there was death-like paleness, and the pulse was hardly perceptible. The hæmorrhage had completely soaked through the bed and escaped on the floor. The belly was not tumefied, but there was some degree of tenderness and there was vomiting. Brandy was administered, and in the course of an hour or two she seemed a little revived; the hæmorrhage, however, returned in the evening. She took the acid infusion of roses with tinct.

opii, and was kept strictly quiet. On the tenth day she was a little improved, but in the evening the flooding returned to an alarming degree. Various means were employed, but she died on the eighteenth day after delivery.

Post mortem inspection.—The peritoneal surface of all the viscera healthy, but very much blanched. The bladder somewhat distended with urine, and the uterus not so much contracted as is usual. Near the neck on the left side, and between the folds of the broad ligament, there was some appearance of extravasation, and a sac partly filled with bloody pus was opened, which sac communicated by a large aperture with the general cavity of the uterus. On laying open the interior of the uterus, there was the appearance of a deep excavation or ulceration, capable of readily admitting a finger or two, leading to this sac. The other parts of this organ were perfectly healthy. The uterus was shown to some of my professional friends, one of whom considered the excavation in question as an abscess, but two or three others, with myself, looked upon it as a partial rupture of the organ, the aperture communicating with the general cavity of the uterus, being too large for an abscess to have existed there."

The close similarity between the leading features of this case and the preceding one is very remarkable. Both were subsequent labors (a seventh and a third); both children were delivered by the pelvic extremities; both women died of hæmorrhage; and in both there was a cavity in the left side of the cervix, communicating with the interior of the womb, by an opening that would admit one or two fingers. That there was a partial rupture or laceration of the proper structure of the womb, as Mr. Roberton supposed, is unquestionable. But, I think, there can be little doubt that this rupture of the uterine tissue, was in the first instance, the result of extravasation of blood, into the muscular substance of the uterus.

The less severe forms of extravasation into the substance of the os uteri, occur about the time when this orifice is a little better than half dilated, and the membranes ruptured.

The anterior lip is the part most commonly affected, from its being more liable to mechanical injury during labor, especially to compression between the head and symphysis pubis. To this squeezing or jamming of the lip against the pubes, the extravasation is, in most instances, to be ascribed. The part becomes swollen to the size of a chestnut or walnut, and may retard the descent of the head for a considerable time. This swelling of the lip is by no means uncommon, but in many, perhaps in most cases, the tumefaction depends upon simple congestion and œdema of the part, the result of the partial strangulation to which it was subjected, but in a few cases evidence is afforded us of the fact, that extravasation of blood had also taken place. This is shown by the discharge of a quantity of dark blood, simultaneously with the collapse of the tumour and the advance of the head. If the pains be strong, the tumefied lip may be pushed down so low as to come into view, presenting a deep plum colour.

The hæmorrhage which occasionally takes place in the *second stage of labor* (and to which Dr. Hardy and myself have specially directed attention, in our Practical Observations on Midwifery, &c.) may proceed from a ruptured thrombus of the uterine lip. Denman, as we have seen, notices the fact, that a discharge of blood from this source sometimes occurs simultaneously with the passage of the head through the os uteri. I cannot venture to say how often in my experience hæmorrhage at this period of labor has been so produced; as, to determine this point beyond doubt, a minute examination of the os should have been made soon after the birth of the child. But I have recognized it as a cause in more than one instance, and I have no manner of doubt that in some other cases the hæmorrhage likewise proceeded from a ruptured thrombus of the os uteri. And this conclusion I came to, from the tumid state of the lip before the head cleared it, and from the hæmorrhage continuing after delivery, in spite of a firm contraction of the uterus, with a quiet state of the circulation.

The rupture of one of these uterine hæmatoceles may also give rise to troublesome or dangerous hæmorrhage *post*

partum; for the restraining of which, the most effectual treatment would be the direct application of cold, and plugging the vagina. If not already aware of the existence of this lesion, the persistence of the hæmorrhage, *with a firm contraction of the uterus,* should, at all events, suggest the possibility of its presence, when a careful digital examination would, in all probability, remove any doubts that might exist.

Dr. Montgomery narrates a case, which illustrates some of the foregoing remarks. "A lady affected with varicose veins, which extended all up the lower extremity, and could be traced into the vagina, was delivered, after a natural and favorable labor, at midnight; but shortly afterwards a fearful rush of blood took place, very unexpectedly, for the *uterus was well and firmly contracted.* So great was the hæmorrhage that complete prostration was immediately produced; and, when I saw her, she was cold and pulseless, nor had she any return of pulsation in the radial artery for six hours and a-half from the time of the sudden hæmorrhage; and during a part of that time, the action of the heart could neither be felt nor heard. All this time, the uterus remained perfectly contracted; but in the situation of the anterior lip its substance felt as if broken up into a soft pulp, the consequence, as I believe, of the formation and rupture of a bloody tumour. To our great joy she ultimately rallied under the treatment adopted, and completely recovered."

Gooch was the first to call particular attention to the fact that *post partum* hæmorrhage occasionally takes place with a firm contraction of the uterus. The production of the hæmorrhage, in these exceptional cases, he attributed to undue excitement of the vascular system. Without at all wishing to deny the influence which vascular disturbance may exert in causing uterine hæmorrhage at this particular period, I yet cannot help thinking with Dr. Montgomery, that the rupture of a uterine thrombus, and, consequently, the open state of some vessel or vessels in the cavity thus formed, is very often the real cause of this "peculiar form of hæmorrhage," as Gooch termed it. "It is to be recollected," observes the former writer, "that just where the

thrombus forms is precisely the situation in which the contractile power of the organ is most feeble; and should it happen towards either side, it is then close upon the very part where the blood vessels send in the largest supply to the uterus."

The foregoing facts and observations, few and imperfect though they be, will, nevertheless, serve to show that this subject is one of extreme interest; and, even in a purely practical point of view, has strong claims on our attention. I have shown that it has a close bearing upon three of the forms of hæmorrhage incident to childbed, viz., hæmorrhage in the second stage of labor; hæmorrhage immediately succeeding parturition; and secondary hæmorrhage, occurring some hours or days after delivery.

STONE IN THE BLADDER.

THERE can be no doubt that women are less liable than men, to the formation of vesical calculus. The greater shortness and dilatability of the female urethra, the absence of a prostate gland, and their more regular, temperate lives, all concur to render the disease, much less frequent among them. Calculi of considerable size have been spontaneously discharged from the female bladder. If the stone be smooth on its outer surface, and the patient happen to be pregnant (when the passages are more dilatable), it may be expelled, by the unaided efforts of nature even though its bulk be equal to that of a marble, or large filbert nut. At a recent meeting of the Dublin Obstetrical Society, Dr. J. A. Byrne exhibited a calculus, voided in this manner by a woman seven months gone in her second pregnancy. The stone, composed apparently of phosphates, was perfectly smooth, and had the exact shape of an almond comfit, but was very much larger in point of size.

The relative frequency of vesical calculus in the two sexes is very great, and differs much in different places. Thus in the Norwich collection of 704 calculi, 669 were removed from males, and 35 from females, or 19 to 1. At the Hotel Dieu, from 1808 to 1830, there were 284 calculus patients operated on, and of those 267 were males, and 17 females, or 16 to 1. During a period of twenty-three years, 146 patients were operated on for stone at St. Thomas's

Hospital, London, and only two of them were females. From Civiale's tables, the proportion of female stone patients to male, in Italy, is 1 to 18; and in France it is 1 to 22. In 1860-61, M. Civiale operated on 120 stone patients, 115 males, and 5 females. Mr. Coulson estimates the proportion at one female to twenty males; and Prout made it 1 to 23.

The *symptoms* to which a calculus may give rise are essentially the same in both classes of patients. There are some minor differences depending on sex, but they are not always present. Irritability of bladder, is a very common accompaniment of stone, but it may be produced by such a variety of other causes, that it is valueless as a diagnostic. Incontinence of urine, also, may be an attendant symptom where the stone is very large, or even with one of moderate size. Severe pain after voiding urine, is entitled to much more consideration. The occasional occurrence of paroxysms of excruciating pain in the bladder, is a still more reliable symptom, especially if the pain is brought on by motion of the body. Where the calculus is of any considerable size, the patient is apt to complain of a constant forcing downwards; the vagina, especially its anterior wall, is relaxed, and there is more or less prolapsus of the uterus. In children prolapsus of the rectum also, not uncommonly is present. Enlargement or relaxation of the meatus urinarius is sometimes observed. The urine is very generally turbid, and contains an admixture of blood, mucus or pus. Sexual intercourse may be productive of pain, though in one very well marked case, which came under my own notice, the patient said, that intercourse was wholly unaccompanied by pain of any kind. Sir Astley Cooper, was of opinion that the symptoms attendant upon this disease, were more urgent in women than in men. This may be explained by the greater mobility of the bladder, and its liability to displacement from disturbances of the uterus or vagina. The number and intensity of the symptoms, will greatly depend on the character of the exterior surface of the calculus. If this be rough and irregular, more or less vesical pain and irritation will be experienced. On the contrary, if the

surface be smooth, there may be no pain whatsoever, only an occasional retention of urine, or a sudden stoppage of the current, when in the act of passing water. Hæmaturia is another symptom, which, in some rare cases, has been very prominent. I do not mean the slight admixture of blood with the urine—this is very common—but the discharge of large quantities of pure blood from the bladder, which, it is of importance to know, may take place even when the calculus is of but moderate size, and not remarkably rough or crystallized on its exterior.

There are two *physical signs* of a stone, or foreign body in the bladder:—1, feeling the substance from the vagina, through the vesico-vaginal septum; and 2, touching it with the sound or metallic catheter. The former can frequently be practised where the stone is large, and the vagina much relaxed, but the sensation imparted to the finger, will rarely suffice to justify a positive diagnosis, unless we could practice the *ballottement*. This could only be done, when the bladder is somewhat distended with fluid. I quite agree with Cazeaux, that under these circumstances the ballottement of the calculus might very easily be mistaken for ballottement of an early fœtus, and so lead one into error respecting the condition of the patient. I am not aware, however, that such a mistake has ever been actually committed.

Although the stone generally lies at the lower part of the bladder, upon the vesico-vaginal septum; yet if it be very small, or adherent to the upper part of the bladder, it may not be perceptible from the vagina at all. Such was observed in a case I once saw, where the stone was extremely large and adherent to the bladder. In this remarkable case, the bladder containing this enormous calculus could be felt as a hard globular tumour behind the pubes, and apparently filling the brim of the true pelvis.

In sounding the bladder for stone, the best position for the patient to lie in, is upon the back. It is not to be inferred that there is a *calculus* in the bladder, because the sound impinges on a hard substance there. It may be some-

thing which had been introduced from without, and a patient will rarely volunteer the information, that she has passed anything into the organ. Various are the articles which have found their way into the bladder, and formed the nuclei of calculi, viz., beans, peas, fruitstones, pencils, pipe stems, strips of leather, ears of corn, nails, bullets, hairs, pins, catheters, flower stalks, fœtal bones, bits of wood, &c., &c. Should the sensibility of the urethra or bladder be extremely great (and this is not unusual) the patient ought to be chloroformed previously to sounding: otherwise we may not be able to make a full and satisfactory exploration of the bladder.

Let me now relate a case where all the symptoms of stone in the bladder were very well marked, and which derives additional interest from the fact of the calculus having been removed, when the patient was in the seventh month of her pregnancy.

A. S. aged 35, an Englishwoman, was received into the chronic ward of the Lying-in hospital 28th August, 1860. She was in the sixth month of her first pregnancy, the menses having last appeared the 20th February. In the beginning of June, 1860, she suddenly, and for the first time, got retention of urine, with some inward pain and uneasiness. For several days after this the catheter had to be passed occasionally, but not since. Up to the time of her admission, she had been under the care of a homœopathic practitioner, who was treating her for prolapse of the uterus. There was some degree of irritability of the bladder, obliging her to get up twice or three times in the course of the night to void urine. She suffered occasionally from severe paroxysms of pain in the vesical region, lasting one or two hours: walking about or turning suddenly in bed was apt to bring on this pain. There was generally more uneasiness immediately after passing water, than before. Sexual intercourse was not attended by any annoyance. The meatus urinarius was not at all enlarged or patulous, but the urethral mucous membrane was exquisitely sensitive. There was considerable relaxation of the vagina, and more especially of its anterior wall. The urine was acid,

deep in color, had a specific gravity of 1020, and deposited a copious sediment of lithates, mucus, blood, and perhaps some pus. It was not till after she had been in the hospital for several days, that I elicited all the above facts, or that I began to suspect there might be a calculus in the bladder. During the fortnight succeeding her admission, all her symptoms underwent a remarkable alleviation, and the urine, even, resumed its normal condition. But her former symptoms came back with increased severity, and on the 18th September, I explored the bladder, as she lay supine, with a large straight silver catheter. Fortunately, on the first essay the stone was touched, and afterwards Drs. Byrne and Halahan (the Assistants) and myself, all felt the calculus in the plainest manner possible. From the irritability of the urethra and bladder, this examination caused her very considerable pain. The presence of the stone could not be felt from the vagina. As this calculus was a source of very great suffering, and might have interfered with her labour, I determined upon its immediate removal. On the following afternoon, Mr. Wilmot—who acted for the late Mr. Cusack, then consulting surgeon to the hospital,—the Assistant Physicians —Drs. Byrne and Halahan,—and myself, proceeded to the removal of the stone. A sponge tent had been introduced into the urethra some hours before, but had caused such extreme pain, that its presence could scarcely be tolerated: however, it had somewhat dilated the canal. She was placed on her back and put fully under the influence of chloroform. With Weiss' instrument, the urethra was dilated sufficiently to allow the introduction of the index finger, and permit it to come in contact with the stone. Mr. Wilmot now made several attempts to seize it with a forceps, but could not succeed, in consequence, chiefly, of the imperfectly dilated state of the urethra. However, he was fortunate enough to grasp the stone from the vagina, and to press it fairly into the urethra, where it became firmly wedged. The propriety of incising the urethra was now considered, but to this I objected through fear of hæmorrhage, owing to the woman's pregnant condition. After very considerable delay, Mr. Wilmot changed the

position of the stone and forced it through the urethra, by the grasp he had of it from the vagina. The urethra, as may be supposed, sustained a good deal of abrasion and laceration.

The whole operation lasted over an hour, and although the patient was completely under the influence of chloroform, she seemed to suffer very much pain. The calculus was composed of the oxalate surrounded by the phosphate of lime, and displayed on its surface an abundance of minute crystals (apparently of triple phosphate), which rendered its exterior very rough. Its smallest circumference was two inches and a-half. Much swelling, inflammation, and some sloughing took place around the meatus, and for some days she had incessant sickness of stomach. This, I think, was attributable to the chloroform; at least I have, on other occasions, seen distressing and prolonged sickness follow its use; but whether this arises from peculiarity of constitution, or impurity of the medicine, I cannot take upon me to say. In all of these cases the patient had been for some length of time, never less than an hour, under the influence of the anæsthetic.

This operation was performed on the 19th September, and by the 4th October, she was able to be up for a short time, and could retain the urine for some hours when remaining at rest. It showed for some time a great abundance of lithates, but no other morbid appearance. No threatening of labor appeared, and she left the hospital on the 10th October. She returned for her confinement on the 17th December. Her labor was somewhat tedious, and I had to terminate it by the use of the forceps. The child, a boy, was born alive, and she made a good recovery. I have seen this woman from time to time since. Her health has been good, but she cannot retain her urine beyond three or four hours unless she is perfectly at rest; this may in part be accounted for by the extreme relaxation of the vagina, with prolapse of the uterus.

Mr. Wilmot was strongly averse to attempting lithotrity in this case, from the contracted state of the bladder, and the extreme irritability of this viscus and of the urethra. The

retention of a sufficient quantity of fluid while the stone was being broken up would have been an impossibility.

There has been considerable fluctuation of opinion in regard to the value of lithotrity in females. The conclusion to which Mr. Coulson comes upon this point is, I doubt not, the true one, and will be endorsed by all practical surgeons. "It may happen," he says, "that the bladder is small, contracted, excessively irritable, and incapable of retaining injections," and that where this state of the organ does occur lithotrity should not be undertaken. Sir Philip Crampton says it is applicable to "a very limited range of cases;" and again he observes, "In many, perhaps in the majority of instances, calculi, particularly in young women, are formed on extraneous substances introduced into the bladder. Wire hair pains, tooth picks, and needle cases, are among the articles which have been detected as forming the nuclei of stones extracted from the female bladder. Lithotrity is of course inapplicable to such cases, as the nucleus would probably remain behind after the stone, which was formed on it, had been pulverized and discharged."

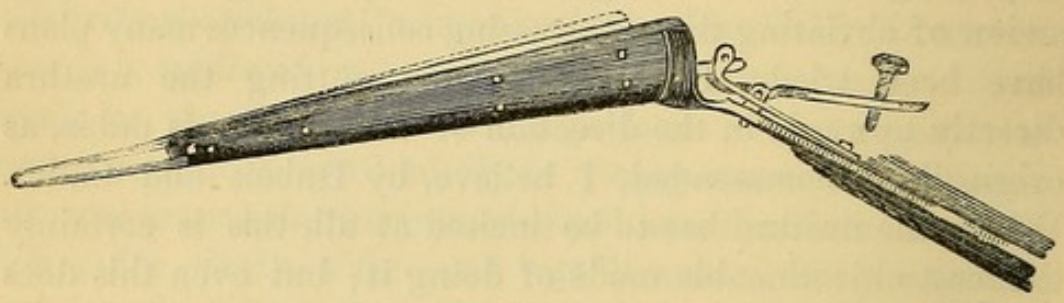
In most cases where the calculus is small or of moderate size its removal may be effected by simple gradual dilatation of the urethra. But a serious or insurmountable obstacle to our attaining this object may present itself. The urethra may, as in the above case, partake of the irritability of the bladder, insomuch, that any course of gradual dilatation (as by sponge tents) is quite out of the question. Here we must trust to rapid dilatation while the patient is under chloroform. By this process a very great enlargement cannot be gained; and, unfortunately, it too frequently happens that where the urethra is lacerated or incised, or even where it is very much dilated, incontinence of urine, to a greater or lesser degree, ensues. Every surgeon, who has written upon this subject, has had the same remark to make. Sir Benjamin Brodie concludes his chapter on the *treatment of calculus in the female* with this observation, "Where the stone is large, I suspect that there is no method of removing it entire from the female bladder without an incontinence of urine,

to a greater or less extent, being a consequence of the operation." And Sir Astley Cooper says, "In all cases of this operation, which I have performed or witnessed, the urine has not been afterwards retained; but, I would not deny, that the patient might recover the retentive power. As the loss of retention is a greater evil than I can describe, producing excoriation and a very offensive state, I shall, in any future operation of lithotomy, try what may be effected by employing a suture to bring the divided parts together." With a view of obviating these distressing consequences many plans have been tried. Brodie suggested cutting the urethra directly upwards in the direction of the symphysis pubis, as originally recommended, I believe, by Dubois and Callot. Where the urethra has to be incised at all, this is certainly the least objectionable mode of doing it; but even this does not always give security against the involuntary discharge of urine subsequently.

Sir Philip Crampton in his paper already quoted (contained in *The Dublin Quarterly Journal of Medical Science* for May, 1847) has spoken very favorably of this procedure in conjunction with dilatation. The mode of carrying out the principle of combined dilatation and incision which he adopted differs somewhat from that recommended by Brodie, Liston, and other surgeons, and proved very successful in the cases in which it was employed by him, and by Mr. Cusack. The instrument he employed, and which he called The Cutting Dilator, affords the requisite means of applying to the urethra the combined action of dilating and cutting in such a way that just so much of the urethra will be cut, as will put it in a condition to be dilated to the fullest extent without subjecting it to laceration. "Those fibres only which, undivided, would resist the dilatation give way before the edge of the knife; the dilatation then advances unchecked until it opens a sufficient passage for the finger into the bladder; the finger is then withdrawn and replaced by the forceps, when the stone or extraneous substance is extracted in the usual manner." Again, he observes, "The effect of The Cutting Dilator, used as above described, is to cut only the external

orifice of the urethra, and about one inch and a-half of the internal membrane lying next to it, while the orifice of the bladder remains uncut; in this respect its action is different from that of the *bistourie caché*, which, from its construction, must, in the first place, cut the neck of the bladder, however slightly, and afterwards incise the internal membrance of the urethra through its whole length."

FIG. 29.



Sir P. Crampton's Cutting Dilator of the Urethra.

Mr. O'Ferrall tells me he removed by this mode a large calculus of a somewhat compressed globular shape, and that the woman regained the power of holding her urine, though not for several months after the operation. The stone was so large, in this instance, that it was necessary to make a slight incision at each side of the urethra, and near its external orifice, in addition to that made above (or next the symphysis pubis) by the cutting dilator, before it could be extracted.

Before determining upon this or any other operation for the removal of the calculus, *we should omit no means* of ascertaining its probable size. When of moderate bulk and not adherent to the bladder, the stone usually lies at its *bas fond*, (in the supine and erect postures of the body,) and can then be felt from the vagina, with sufficient distinctness to admit of our forming some opinion as to its dimensions. Its mobility by the sound when the bladder is full, will also help to guide us in this enquiry. If the stone be extremely large, it may not rest on the *bas-fond* at all, or at least not so as to admit of our feeling it from the vagina, by an ordinary examination. Under these circumstances we should carefully

seek for it in the supra-pubic region, where we shall probably discover it, if the abdominal parieties be sufficiently relaxed; or, whilst one hand is making pressure above the pubes, if we press up the anterior wall of the vagina with a finger or two of the other hand, additional information may be gained.

Different operations have been proposed, whereby the urethra altogether escapes being wounded. Prof. Andrew Buchanan, of Glasgow, was induced some years ago to try a new mode of performing lithotomy in the female, which has been successfully followed by himself and other surgeons, of that city. He has published no account of this proceeding, but in a communication I had from him last July he gives me a description of the operation, which by his permission I here subjoin.

"The date of my first case I find to be February, 1846. In my notes of the Clinical Lecture delivered upon that case, I find the reasons for attempting a new method of operating, stated to be,—the occurrence of permanent incontinence of urine after the ordinary sections then in use; and also after dilatation of the urethra, except where the stones are of very small size. This distressing result is ascribed to the injury done to the muscles of the urethra, by cutting them across, or by lacerating and over-stretching them. It is argued, that the muscular fibres of the bladder surrounding its neck, and often named by anatomists *sphincter vesicæ* are not the true antagonists of the diaphragm, the abdominal muscles, and the proper expulsive fibres of the bladder itself; but are, on the contrary, themselves expulsive agents: and that the true sphincters, which restrain the flow of urine when they are contracted, and permit it to flow when they are relaxed, are the muscles surrounding the urethra and vagina; and that it is the injury of these same muscles, which is the immediate cause of incontinence of urine. The great object of the operation is therefore, to spare these muscles as much as possible, to pass backwards by a longitudinal incision between the fibres surrounding the vagina, and not to make the transverse incision

of the bladder till getting fairly behind the muscular apparatus. With this view the delicate integument on the inside of the left labium is divided in nearly its whole extent from the level of the clitoris downward. Beginning at this line the operator now passes inward, and partly with the finger and partly with the knife, separates the vagina and bladder from their attachments to the side of the pelvis, and pushes them to the right side. The director which had been introduced into the bladder at the commencement of the operation, is now readily felt, and upon it the bladder is opened to the necessary extent, by an incision commencing at the inner orifice of the urethra, and extending outward and downward.

"The opening in the bladder can be made sufficiently large to allow any stone to pass that can be extracted from between the branches of the pubes. In three of my own cases, the stones were of very large size. In one of them the bladder was almost filled with a mass resembling mortar, that had to be dug out with the scoop. In the second, the stone was nearly of the same consistence. While in the third, it was compact and weighed from three to four ounces. I regret that I have not time to ransack my notes to furnish you with an exact analysis of the cases, and I am unwilling to speak from memory alone. I shall therefore conclude by saying, that in no case have symptoms of a serious kind followed the operation, and, that therefore, I believe it to be safe: while in the present state of our knowledge it holds out the best prospect of effecting a cure in all cases, in which the stones are not so small as to be readily, and without much stretching, extracted through the urethra."

From Dr. A. Buchanan, jun. I have learned that this operation has been performed about five times by his father, and several times by surgeons in Glasgow, "always with the best results." There are one or two branches of the pudic artery, which are liable to be divided in this operation; and the dense venous plexus surrounding the lower part of the vagina, can hardly escape injury, and will yield a good deal of blood. From studying this operation on the dead subject I should think it

would be better not to commence the incision of the external parts quite so high up as the clitoris.

A simpler operation than the above, would be to cut direct into the bladder from the vagina. Chelius calls this the *vagino-vesical cut*, and thus describes how it is to be performed: "After placing the patient in the position for the lateral operation, a staff is passed by the urethra into the bladder, and a wooden gorget with its concavity upwards is introduced into the vagina. Both instruments are brought together so as to form a larger or smaller angle in proportion to the cut to be made. The gorget is to be well pressed downwards, so that the front wall of the vagina can be got at. A straight-pointed bistoury is to be held like a pen in the right hand, its point passed into the groove of the staff behind the canal of the urethra, and then by thrusting it forwards, an opening is made corresponding to the size of the stone. Its extraction and after treatment are conducted according to the ordinary rules." The sole objection to this operation, is the risk of a fistulous communication remaining between the vagina and bladder. But Chelius says, this cannot be considered the usual consequence; and since he wrote (now upwards of fifteen years ago), we have learned how to close vesico-vaginal fistulæ, and the great utility of metallic sutures in the operation; so that with our present knowledge and appliances, we might reckon pretty confidently on union of the wound in the vesico-vaginal septum, provided the vagina be sufficiently capacious to admit of our properly inserting the sutures which are to retain the edges of the wound in apposition. This is an indispensable condition.

Dr. Marion Sims has, we are told, performed lithotomy on this plan, bringing the edges of the wound together with the wire sutures, and pursuing the same after-treatment as in his mode of operating for vesico-vaginal fistula. It would be a question whether to make the cut through the vaginal septum transversely or longitudinally. In the operation as described by Chelius, and quoted above, the incision is made longitudinally. But there appear to me to be some advantages in favor of a transverse cut. In the first place such

a wound is more easily sutured; secondly, it is more likely to unite, in consequence of its being parallel with the muscular fibres of the vagina; and, thirdly, it is less likely to burst or give way under distension of the vaginal canal.

A contracted or virginal state of the vagina would constitute a material objection to the vagino-vesical operation of lithotomy. But there are few cases in which this objection could not be removed, and the canal rendered sufficiently capacious to admit of the introduction of the sutures. Greater space would not be required here than is necessary for paring and suturing the edges of a fistula: yet in a considerable proportion of these latter cases, contractions of the vagina from adhesions and cicatrices have had to be overcome prior to making any attempt to close the fistula.

Whilst engaged in writing these remarks, the report of a case closely bearing upon them, came under my notice in the pages of the *Lancet*. The patient, aged nine and a-half years, was under the care of Mr. Fergusson, in King's College Hospital, and the stone was extracted through the vagina. Chloroform having been given, "Mr. Fergusson, after sounding for the stone, and discovering its position, passed a straight-grooved staff into the bladder; and having turned the groove downwards towards the vagina, he gave it to an assistant to hold; then, dilating the vagina with the finger of the left hand he introduced the point of a scalpel into the groove of the staff, immediately behind the neck of the bladder, and slit open its wall to the extent of three quarters of an inch. This allowed the forefinger of the left hand to be introduced without difficulty, the staff at the same time being withdrawn. A small pair of forceps was then passed along the finger, and the stone was seized. In withdrawing the forceps, a little delay occurred owing to the stone being larger than the wound. This difficulty, however, was overcome by rotating the forceps, and causing the expanded blades to dilate the opening gradually.

The stone, which was of the "mulberry" kind, having been extracted, Mr. Fergusson brought together the edges of the wound by a silver suture. On the following day this

stitch was removed. A few days after the operation a decided improvement was noticed in the girl's general health and appearance; but she was quite unable to retain her urine, it dribbling away constantly without her being aware of it."

Total incontinence of urine followed the operation, and hence the case might perhaps be regarded as subverting the favourable opinion I have ventured to express upon the vagino-vesical operation of lithotomy. If the facts of the case be carefully examined, however, I do not think that they will be found to have much weight against this mode of operating, the grounds of preference for which are, that the wound may be treated in the same manner as a vesico-vaginal fistula. But surely this could not be done in a child *nine and a-half* years old, without much preparatory dilatation of the vagina, which does not seem to have been done at all. Only one suture was put in, and even this suture was removed on the following day. We can well understand, as the reporter of the case has stated, that the smallness of the vagina was a very great obstacle to putting in even the single point of suture. It is very probable, however, that no better result would have attended any mode of operating in this particular instance.

MAMMARY INFLAMMATION AND ABSCESS.

MAMMARY inflammation and abscess are of very rare occurrence except during pregnancy or lactation, when the gland is undergoing development, or in the active discharge of its functions.

Of *abscesses during gestation* several instances, at the fourth month and upwards, have come under my notice. Denman has sagaciously remarked that the state of pregnancy, though not exactly one of disease, yet borders very closely on it. This observation is applicable to every organ sympathetically or directly influenced by conception. The breasts, among others, become the seat of increased vascular and nervous activity, and hence a very trifling external injury is sufficient at this time to induce serious inflammation with its consequences.

When this inflammation arises spontaneously, we must explain its occurrence, not by a retention of milk or obstruction of the lacteal ducts, but rather by supposing that the hyperæmic condition of the gland, which is a normal condition at this period, has gone too far—has exceeded the physiological limit,—and merged into actual phlogosis. I cannot say that *ante partum* abscesses present any notable difference in their symptoms or course from those taking place *post partum*, except that they are, perhaps, more frequently situated in the lobules of the gland, and are more tedious of cure.

When allowed to burst of themselves, I have generally observed that they did so by two or more separate openings. If occurring towards the latter end of gestation, it may be found impossible to get the abscess to close till after delivery. I have seen cases of this kind where there were four or five fistulous openings in the breasts at the time of labour. In cases of an earlier formation the abscess has completely healed long before the setting in of labour, and with a little extra caution the woman has been able to suckle from that breast, though generally speaking, a breast that has been once the seat of inflammation and abscess, is more likely to be affected with the same again, on the occasion of lactation. Women seem more obnoxious to mammary inflammation and abscess of the breast in their first than in subsequent pregnancies, at least the limited data before me would lead to this inference. Irritation of the mammary gland is one of the sympathetic effects of pregnancy, all of which are more acutely felt by primiparæ; whilst the direct or mechanical effects of pregnancy, are most marked in multiparæ.

Of the abscesses which I have seen in the breast *during lactation*, the immense majority made their appearance within six weeks after delivery. A few occurred so late as ten or twelve months after delivery, and still fewer in the intervening period. Upon this point, then, my experience coincides with that of Mr. Nunn, the assistant surgeon to the Middlesex Hospital, in so far that we both consider the first two months of lactation to be the most prolific of mammary abscess, the tenth and succeeding months the next so, and the intermediate months the least so. But in regard to the comparative frequency of abscess in the first and second of these periods we differ much. His returns show the proportion of cases in the first period to be 57 per cent.; and in the second period to be 29 per cent. Whereas in my experience the former class have a proportionate frequency of 90 per cent. This discrepancy may, however, be explained away in some measure. With few exceptions all my cases were seen at the Lying-in Hospital or the Dispensary attached thereto, where patients sought advice for every ailment

coming on within a month or two after parturition: but for an abscess of the breast, or any complaint not directly seated in the generative organs, occurring some months later than the puerperal month, they apply at a general hospital, considering that the case had now passed out of the province of the accoucheur.

This greater proclivity to inflammation after the ninth month of lactation (as compared with the six preceding months) "must be considered," writes Mr. Nunn, "as an induced proclivity, having its origin in a certain condition of the system brought about by over lactation." This condition of the system is, in fact, a form of cachexia, characterized by a deficiency of red blood, general debility, impaired digestion, and great bodily languor, &c.; a state of the system in which local congestions are very apt to arise, and suppurative action is very easily set up.

From the experience of my private practice, as well as of nearly eleven years at the Lying-in hospital, I have preserved the notes of *eighty-two* cases of mammary abscess. In *eighteen* of this number both breasts were engaged; in *twenty-nine* cases the right breast was affected; and in *thirty-five*, the left breast. This preponderance of cases of mammary abscess on the left side is somewhat remarkable; especially, when taken in connexion with the fact, that other puerperal lesions evince a partiality for the same side of the body. Can the position on the left side during labor and delivery have anything to say to it? This question we cannot positively answer; but it is curious that in the practice of Velpeau at Paris, where all women are confined on the back, abscess occurred with equal frequency in right and left breasts.

In only *thirty-four* instances was the number of the pregnancy noted; and of these women the abscesses followed a first confinement on *twenty-three* occasions; that is to say, more than two-thirds of the entire number were primiparous women. This shows the risk of suppuration of the breast to be very much greater in a first than in a succeeding childbed; for, among the class to which most of these patients belonged, primiparæ constitute only one-third of the entire number. Of the *eleven* multiparæ, *three* were in their second

pregnancies, and had escaped mammary inflammation previously, by not having made any attempt at nursing.

The particular parts of the breast, which were most frequently engaged, were the lateral and the inferior lobes.

A very large proportion of the patients had some form of *sore nipple* previously to the occurrence of inflammation of the gland. In nearly all of them the inflammation came on days or weeks after the patient had left the hospital, or had ceased to be under medical care. On a few occasions, I have had an opportunity of observing the inflammation of the breast to supervene immediately and directly upon the ulceration or fissure of the nipple, as though it were an extension from it; whilst in other cases the gland became affected secondarily, in the same way as do the inguinal glands from irritation of the vulva or the urethra. The great danger, in fact, to be apprehended from sore nipples is mammary inflammation; and this may be considered imminent when the base of the nipple becomes hard and tender, and the act of nursing is productive of acute pain. Poulticing the nipple with bread and water and giving it perfect rest, are the best means of checking this inflammation and preventing its extension to the substance of the gland. The child should be applied to the breast only at long intervals, and for a short time, until its distension shall have diminished, and the flow of milk through the ducts become more free.

By rest and a few hours' poulticing, the inflammation of the nipple may generally be removed, but the sore still remains, and this must engage close attention if the patient is to go on nursing. Under these circumstances I always tell the patient plainly, that her continuing to nurse is attended with a certain amount of risk to herself. It is for her then to decide whether she will encounter this, or not. If, for so far, there be no sign of inflammation in any part of the breast, we may safely promise that by *at once* giving up nursing the danger of abscess will be removed. If she persevere till some appearance of inflammation show itself, it is then too late—the mischief is done.

Of sores on the nipple there are principally three varieties,

viz., the *abrasion*, the *fissure*, and the *ulcer*, which is the rarest of all. For superficial abrasions astringent lotions, or a weak solution of nitrate of silver, often prove very beneficial. If the abrasion be inclined to scab, an unctuous application answers best, and should be applied immediately *after* nursing. A combination of basilicon ointment, Peruvian balsam, and honey, melted together, I have found particularly serviceable. It is not easily rubbed off the part, and this is a great advantage. *Fissures*, seated at the base of the nipple, are a most painful and serious obstacle to nursing. Occasionally, they admit of successful treatment by collodion, or by a solution of gutta percha in chloroform. This cements the edges of the crack together by forming an adventitious skin or covering that is not easily removed. It should be renewed each time the child is going to be put to the breast. Lightly touching the fissure with a pencil of solid lunar caustic is also a very excellent application in some cases, and can be tried with cracks near the top of the nipple—a situation in which the former remedy could not well be used. The *ulcerated* nipple is not often met with. The common integument is here removed, exposing the proper structure of the nipple. It is usually the result of negligence and too frequent nursing. Solution of nitrate of silver, diluted citrine ointment, and the ointment above mentioned, are the best applications; but the total relinquishment of nursing is generally necessary. Besides those which have been already mentioned, there are a great number of other applications which will occasionally be found useful in one or other form of sore nipple; and it is well that the practitioner should bear them in mind. For example, of lotions, one composed of an aqueous solution of pure tannin, or of borax, chalk, spirit of wine, and rose water, may be tried. Equal parts of tincture of galls, or of glycerine, and compound tincture of benzoin, is a good remedy for chaps or abrasions. So is a saturated solution of tannic acid in glycerine—a compound that goes by the name of *glycerole*. The oxide of zinc ointment, calamine ointment (Turner's cerate), of which the powder should be finely levigated, Gowlard's cerate, resin

ointment, white wax ointment, spermaceti ointment, and citrine ointment, are all useful remedies, singly or in combination; and each in its turn will be found preferable to the rest. However, I must again reiterate, that the most important part of the treatment of sore nipples is *rest*. The shield, where it can be used, is a very valuable contrivance for sore or tender nipples, by protecting them from the friction or pressure of the child's gums and tongue. But, unfortunately, nipple shields are very disappointing. For one case in which the shield will answer, and the child suck through it, there are fully twenty cases in which it will not. The simple Indian rubber shield I have found to be the least unsuccessful. A piece of soft chamois leather one inch and a-half square, having two adjacent sides sewn together, makes a shield that has sometimes proved serviceable when more elaborate instruments have failed.

Let it not be supposed that I regard abrasion or fissure of the nipple as the only cause of mastitis. Far from it; but I believe it to be a very influential and a very frequent one. The popular notion is, that the retention of the milk, and consequent distension of the breast, causes the inflammation in almost every instance; and by the great majority of practioners the same opinion is likewise held. A recent writer speaks of the milk, which, if not discharged, "might otherwise remain, accumulate, become decomposed, act as a foreign and irritant body, and thus be the active cause of that too common form of abscess, the mammary, with its accompanying accelerated circulation, fever, and delirium."

This idea may, I think, be regarded as a lingering figment of the doctrine so strongly held by Puzos and the leading obstetric authorities of his day, and even later, which ascribed all puerperal diseases to the morbific action of the milk. Hence, we find, that puerperal insanity was designated *mania lactea;* secondary pelvic inflammation, or pelvic cellulitis, was a *depôt laiteux;* the effusions into the belly in puerperal peritonitis were the curd and serum of the milk; and phlegmasia alba dolens was the "milk leg," of this class of

pathologists, whom Meigs, with contemptuous sarcasm, calls by the name of "the milk men."

I have rarely known inflammation and abscess to result after delivery from distension of the breast alone, and where there was no irritation of the nipple, nor abscess in the breast before. Neither do I recollect ever seeing a single instance of mammary abscess in a woman who did not nurse at all; nor supervening upon the death of a nursling, where no other exciting cause of inflammation was present. And yet in both these cases the gland is unavoidably subjected to considerable distension. Upon this point Velpeau states: "Attentive consideration of the facts shows in the most unquestionable manner, that women who nurse are more frequently affected with abscess than those who do not."

The two following cases are very much in point, and are quite irreconcilable with the theory that retention of the milk is the exciting cause of inflammatory action in the breast.

Case 1.—*Complete obliteration of nipple from a burn.* Anne Byrne, aged 19, was confined of her first child, in the Lying-in hospital, 9th April, 1861. This woman *has no nipple, areola, or lacteal orifice of any kind, on the right breast:* there is a large cicatrix instead, marking where she received an extensive burn in childhood. Both breasts enlarged and became hard at the usual time after delivery, and she nursed from the left one. A cere cloth was kept applied to the right breast, and in the course of some days it got soft, and the gland regained its normal size, without any trace of inflammatory action showing itself.

Now, if retention of the milk in the gland has any tendency to excite inflammation, this was just the case where mastitis should have occurred: every circumstance favoured it;—a first childbed, the patient nursing, an abundant secretion of milk, and a total and complete obliteration of the excreting ducts.

Case 2.—*Obliteration of lacteal ducts from inflammation.* Jane Carey, aged 37 was delivered in the Lying-in hospital, of her second child, 30th May, 1861. She had an extensive

abscess in the left breast after her last lying-in, for which no surgical treatment was employed, and the abscess burst within the areola. The nipple is almost effaced and the areola greatly reduced in size. The ducts, also, would appear to be obliterated, as no secretion can be expressed from the nipple. Both breasts became greatly distended with milk. She nursed from the right breast, and the other one gradually resumed the condition it was in before delivery. The only treatment was the application of a cere cloth. Here the previous inflammation and abscess in the obstructed mamma was a strong predisposing cause of inflammation, but none whatever took place.

That retention of the milk should excite inflammation of the mammary gland, is a proposition not sustained by analogy. As a general rule it is found, that obstruction or occlusion of the ureter, hepatic duct, salivary ducts, or vagina, is not followed by inflammation of the gland or organ to which these canals respectively appertain.

The bearing of all this upon practice is obvious enough. Actuated by the notion that retention of the milk is the grand source of mischief, we find nurses, and patients, and occasionally even doctors, using every means, natural and artificial, "to draw the breasts," and not deterred from doing so by the presence of a sore or inflamed nipple; indeed this is always considered by patients as an additional reason for the more vigorous employment of these exhaustive measures, and the natural effect of them is, to insure the occurrence of what is so much dreaded. I have no objection to suction of the breasts to relieve or prevent over distension, *provided the nipple be not sore;* if this be the case, however, our first care should be to give it complete rest, as there is more danger of inflammation being induced by the sore nipple, than originating from the presence of the milk; and as for the distension of the breast, good hand-rubbing, and the application of the cere cloth, will seldom fail to relieve it. Before ordering a breast to be rubbed, it is of the greatest importance to make sure that the hardness arises from simple lacteal distension, and not from incipient inflammation.

Through inattention to this, I have seen bad abscesses produced, which might have been prevented.

In fair lymphatic women, of scrofulous constitution, an attack of acute mastitis sometimes comes on very unexpectedly, and without any apparent exciting cause, such as sore nipple, cold or injury, or over distension. The patient some days after delivery suddenly gets a rigor, and to this succeeds pain, hardness and tenderness, in some part of the gland.

When inflammation has attacked the breast, it is generally indicated by pain and tenderness of the part together with more or less of febrile disturbance. Very often the attack is ushered in by a rigor. Movement of the breast is productive of pain, and a hardness is perceptible in some part of it, and over this situation a blush often exists on the surface. The substance of the gland itself is most commonly the seat of the inflammation; and along with it, the superimposed integument may be engaged; or the latter may alone be affected, though this is rare; and least frequent (in my experience) is sub-mammary inflammation. Where mammary inflammation succeeds to sore nipples (as is the usual course), it often begins very gradually, I might almost say, imperceptibly. We are first made aware of its existence by discovering a hard, tender swelling, or tumour, in some part of the breast.

Velpeau, speaking of chaps or fissures of the nipple, says that the disease may extend into the substance of the breast through the lactiferous tubes, or into the neighbouring areolar tissue, to such an extent that more than one obscess of the breast has been caused in this way. I think he might have gone further and said that very many abscesses have thus originated. This author does not seem aware of the important part which sore nipples play in exciting mammary inflammation; for in answer to the question, "Should a woman with fissured nipples cease from suckling?" he says, "as a general rule, No;" but he subjoins this prudent advice, "if the disease be obstinate, if the woman continue to be much affected, and the child get ill, or fall away, it is better

to resort to a wet nurse, since that is the *only measure* which can restore quietness and health to both mother and child." In Dr. Hardy's and my "Practical Observations on Midwifery, &c." (published in 1848), we have laid much stress on this same point, and all my subsequent experience confirms me in the opinion there expressed.

The external employment of extract of belladonna has been much praised of late for its power of promoting the absorption of the milk. In my opinion, however, its efficacy in this way is little superior to the common cere cloth, and I speak from the experience of a considerable number of cases where I submitted it to the fairest test possible—viz., one breast of the patient was covered with the ordinary cere cloth, and the other breast was well coated with extract of belladonna.

The two remedies were thus fairly tried, and in only one or two instances was there any perceptible difference in their effects: and in these the difference was very slight. One or two of these patients thought the breast to which the belladonna had been applied, was a degree easier than its fellow which had been enveloped in cere cloth; but this obviously might be attributable to the anodyne property of the extract. The use of the belladonna might be attended with risk if the women were still suckling, as some might find its way into the child's mouth, the consequences of which would probably be fatal. I have never been able to satisfy myself that any good results, beyond that of relieving pain, followed its employment in the cases we are speaking of; and this conviction is in no way disturbed by reading Mr. Marley's paper in the *Transactions of the Obstetrical Society of London.* For, when closely and rigidly examined, his table of cases contains merely a shade of evidence in support of the claims of belladonna.

The employment of belladonna as a discutient of the milk is nothing new. Ranque, impressed with certain theoretical notions of his own, was led to employ it for this purpose many years ago, and in a way more likely to succeed, I imagine, than that at present pursued. He had the breasts

rubbed morning and evening with a liniment composed of two scruples of extract of belladonna, two ounces of cherry-laurel water, and one ounce of sulphuric æther; a flannel soaked in this compound was also kept constantly applied to them. (Dewees.) It is not very clear whether he used this for inflammation of the breast, or simply to relieve excessive distension by the milk. There is a very important difference between the two cases; yet few writers are careful to distinguish the one from the other, and this greatly lessens the value of the therapeutical directions they have given.

The resolvent treatment of mammary inflammation is admitted to be very unsatisfactory, rarely effecting the desired end, even though undertaken at the very onset of the attack and carried out with vigour. After free purging, the best internal treatment I believe to be the tartarized antimony in nauseating doses, as recommended by Dr. Beatty. In the way of topical treatment we have a choice between leeching, hot fomentations, mercurial ointment, and cold lotions, and after some experience with each of these, I am bound to say that the cold lotion has less frequently failed than any of the others. At the same time I must add that the proportion of cases in which resolution has been brought about by its means is very small. The lotion I have been in the habit of ordering is composed of muriate ammonia dissolved in about equal parts of vinegar, water, and spirits of wine. Whether the sal ammoniac possesses any peculiar or discutient property in these cases I will not pretend to say. Mr. Tuson, however, speaks of it in very favourable terms, and says he has seen it disperse inflammatory swellings of the breast, even when the presence of matter was quite palpable.

I have notes of cases where, under the use of the above lotion, resolution took place after the formation of a phlegmonous tumour of the breast, attended with an erythematous blush on the surface, and the usual pain, tenderness, and febrile action of acute mastitis. In nearly every instance, not excepting the unsuccessful ones, patients have felt a considerable mitigation of the pain by the employment of the cold lotion. It is but proper to add, that in two instances

suppuration had unquestionably taken place; yet under the use of the lotion, the matter was entirely re-absorbed. One of these patients had an abscess not long before in the same breast. It is rare for mammary inflammation to arise earlier than the fifth or sixth day after parturition; but if it did, I would not, under these circumstances, employ the cold, as metastasis might take place to the uterus. For the like reason, any treatment that would "repel the milk," or rather repel the blood from the mammary gland, is not prudent within the same period *post partum*.

The application of ice to the inflamed breast has been recommended. I have no experience, however, of its use in these cases; but I am disposed to think favourably of it, with the same limitation under which the cold lotion is used, viz., not to employ it before the fifth or sixth day after delivery. In the very early stage of mammary inflammation, Dr. Dewees found that frequent stuping with warm vinegar was more efficacious than any other remedy. "It is particularly prompt," he says, "where the breasts are greatly and painfully distended by a sudden secretion of milk, which cannot be extracted with ease or in sufficient quantity to relieve the tension." When the formation of an abscess seems inevitable, and that the cold applications no longer assuage the pain, a linseed-meal poultice may be substituted, and changed every four or six hours. This has often a very soothing effect, and is supposed to hasten the progress of the matter towards the surface. Some practitioners have a partiality for poultices of flummery, but I cannot see what advantage it possesses over linseed meal, unless by way of a change, or to gratify the whim of a patient. If she complain of the weight of the poultice, a double fold of lint moistened with a liniment composed of Gowlard water, olive oil, and laudanum, may be kept constantly applied. In patients of quick sensibility and sanguine temperament, high fever and great pain will attend this inflammation. The above liniment, or equal parts of belladonna extract and cold cream, will sometimes have a very soothing effect upon the breast, and greatly mitigate the patient's suffering. Over this may be applied

spongio-piline wrung out of hot water. This application forms a very good substitute for the poultice where the weight of the latter renders it objectionable.

In every stage of mammary inflammation and abscess, it is of the greatest importance that the breast be well supported and not allowed to hang down. This can be very efficiently done by means of a soft bandage (a silk pocket-handkerchief answers the purpose very well) fastened round the neck and carried down underneath the affected breast. I have found it attended with benefit, as long as there is any inflammation present, to confine the patient to the horizontal position, at the same time applying the sling in the manner above described. The greater frequency of abscess in the lower lobes of the breast, plainly points out to us, as Mr. Nunn has remarked, that the recumbent position "may be rationally insisted on."

With regard to the exact time for *opening* mammary abscesses, there exists a difference of opinion among surgeons; some recommending it to be done as soon as the presence of matter is established; whilst others advise us to wait until the abscess is pointing, or the matter immediately beneath the skin. "Perhaps," says Cooper in his Surgical Dictionary, "as a general rule, the surgeon should never wait for an abscess of the breast to approach the surface, but make an opening as soon as the slightest degree of fluctuation is perceptible; for if this be not done, and the abscess is not very superficial, the matter will spread and form sinuses in different directions." On the same point Sir A. Cooper thus speaks:—"If the abscess be quick in its progress; if it be placed on the anterior surface of the breast; and if the sufferings which it occasions are not excessively severe, it is best to leave it to its natural course. But if, on the contrary, the abscess in its commencement is very deeply placed—if its progress be tedious—if the local sufferings be excessively severe—if there be a high degree of irritative fever, and the patient suffer from profuse perspiration and want of rest, much time is saved and pain avoided, by discharging the matter with a lancet."

Velpeau says an early opening is useful in subcutaneous abscess, less advantageous in the deep-seated or submammary variety, and may even prove injurious in the glandular or parenchymatous abscess, which is the only kind where there is some advantage in giving time for the formation to open itself, or at any rate in opening it merely by puncture.

During an experience of eleven years at the Lying-in hospital, the rule of *late puncture* was the one almost invariably followed, and in every single instance with the most satisfactory result. This was the rule of the late Mr. Colles; and of Dr. Charles Johnson, under whose teaching I learned it, when his Assistant in the Lying-in hospital.

It has been supposed that by delaying to evacuate the abscess, its size would of course be increased, and that consequently the obliteration of its sac would be proportionately slow in taking place. In answer to this objection, I can only say that my experience does not at all warrant such an apprehension. Nay, more, the most rapid cures I have seen after lancing the breast, were cases where the abscess had attained a very great magnitude, and the matter was so near the surface that ulceration was on the point of taking place. The following was a very remarkable example of this.

Case 3.—A young woman, with red hair and fair complexion, who was a few weeks confined, applied for admission to the chronic ward on account of an abscess which had been forming for some days in the left breast. She was in great suffering, and the breast was enormously swollen, and very much discoloured. The tumour was most prominent in the situation of the areola, and all trace of the nipple was effaced. The colour of the part was dark and mottled, as though on the eve of bursting; I need scarcely add that fluctuation was everywhere quite distinct. On plunging a bistoury into the breast, a thick jet of purulent matter was forcibly projected to a distance of some feet. In the course of a few minutes thirty-six fluid ounces (by measurement) of pus were spontaneously discharged. This was certainly the largest mammary abscess I ever saw: nevertheless, not one ounce more matter was secreted, and this vast sac was entirely

closed in the space of five days. In this and another like instance strapping the breast with adhesive plaster was employed after the second day. It was impossible to know in what part of the breast these abscesses commenced; but in each of them the gland was involved, to a greater or less extent, at the time the patient was seen.

By "late opening" I mean, that at the time of puncturing the abscess the matter has approached so near the surface that fluctuation is quite distinct, and the intervening stratrum of integument very thin. In following the rule here laid down there is no likelihood that the error will be committed, of thrusting in a lancet where no pus exists; for the diagnosis of the existence of pus will be a matter of undoubted certainty. The pain of the operation under these circumstances is of course very much less than where the matter is more deeply seated.

It has been recommended as a rule, that the abscess should be allowed to open spontaneously; but I have generally found where this has occurred that more or less destruction of the integument has taken place, which delayed the cure, and was followed by considerable retraction of the nipple. In Case 2, already related, where there was such destruction of the nipple, with complete obliteration of the lacteal ducts, the abscess burst within the areola, a great part of which was gone.

Though advocating, as a general rule, the delayed opening of the abscess, still I would not go so far as to say it should never be departed from; for, in some instances, especially where the collection is sub-mammary, it may be expedient to make an early incision on account of severe pain and constitutional irritation, or to prevent the burrowing of the matter. In all cases, the point to select for puncture should be as remote as possible from the nipple, so as to lessen the risk of its retraction, which but too surely takes place when the opening, whether natural or artificial, is within the areola. Last year I saw a patient in her third confinement, who had a true *lacteal fistula.* Immediately underneath the right nipple was a minute opening from which the milk was very

constantly escaping. She said it was the consequence of an abscess, which had been lanced in that spot after her first lying-in.

I may just mention, before quitting this part of the subject, that I know of no instrument so convenient for opening a mammary abscess, as the small, curved, double-edged bistoury, which is called, whether rightly or wrongly I cannot say, after Mr. Syme. Its sickle-shape and double-edge give it peculiar advantages.

Having had occasion to allude to strapping or compression of the breast, I would wish to say a word upon it here. This practice, which MM. Trousseau and Contour were the first to introduce, was strongly recommended by them in every stage of mammary inflammation. This precept is, I have no doubt, too universal, and leads one to expect too much from the practice. Of its great utility *after the opening of the abscess* and the *entire subsidence of surrounding inflammation*, I can speak in the strongest terms. When so employed, I have always found it a most admirable means of checking the discharge, and obliterating the sac of the abscess. Upon this point the result of my experience is fully corroborated by that of Velpeau. "Notwithstanding its unquestionable efficacy," he writes, "compression can, however, scarcely be employed at all in cases of pure and simple inflammation of the breast, nor in abscesses which are still closed. . . . It is more particularly where the pus has found an exit that compression is useful. After the opening of an abscess, more than any other method, it permits of our bringing the edges of the wound together, so as to promote its cicatrization; and by its assistance we sometimes succeed in completely curing the largest formation in the course of two or three days."

There are two modes in which compression may be made on the breast with adhesive plaster. By one way, long strips of plaster are carried round the thorax and across the breast, thus compressing it against the ribs. By the other mode, the breast is encircled with the strips of plaster commencing at the base and extending up to the nipple, a small orifice

being cut over the opening of the abscess to allow the escape of the discharge. In the course of a day or two the strapping is removed, and fresh applied. This latter is the manner in which I have always strapped the breast, and I would, therefore, recommend it.

When an abscess has been discharging for some time, and seems slow to heal, a stimulating lotion applied to its orifice has a good effect. Equal parts of water and of spirits of wine answer very well; and this may be employed at the same time with strapping of the breast. Occasionally milk, plain or mixed with pus, is discharged from an abscess; but this circumstance need not influence the prognosis or treatment in any way.

Drainage tubes have been extensively used by some modern French surgeons in the treatment of mammary abscess. I have no experience of them whatsoever, nor shall I be induced to try them in this class of cases, until their superior advantages are more satisfactorily established than they are at present. Under the mode of treatment described in this memoir, the cures were satisfactory and expeditious; and I cannot call to mind a single instance in which sinuses resulted, or where the obliteration of the abscess was delayed for any great length of time.

When a patient is threatened with mammary abscess, she should cease to suckle the child from the affected breast. Unless it be a great object to her to continue nursing, or that she be a very strong robust woman and able to bear the double drain upon her, I advise the withdrawal of the child from *both* breasts. The sympathy between the two breasts is so great, that the application of the child to the sound breast will continue to stimulate both. Besides this, the milk secreted under these circumstances cannot possess healthful or nutritious qualities. However, I have known many instances of women continuing to suckle from the unaffected breast, whilst the other was going through the successive stages of inflammation, suppuration, and cicatrization. In a smaller number of instances, I have known suckling resumed from the sore breast after the abscess had quite healed.

Of the lacteal or lactiferous tumour, spoken of by Sir A. Cooper as occasionally forming in the breast after delivery and requiring to be opened, I have not seen a single example; and on very few occasions have I seen milk coming away in the discharge from an abscess.

Only one example has fallen under my notice in which I felt satisfied the abscess of the breast was purely *symptomatic*. In this instance it succeeded to uterine phlebitis. An enormous swelling, attended with great pain and some discoloration of the skin, formed in the superior part of the right mamma, extending upwards to near the clavicle. On dissection, an immense quantity of unhealthy purulent fluid was infiltrated throughout all the structures of the part. In strict nosological nomenclature, then, this was a diffused symptomatic mammary abscess.*

* The substance of this memoir was read before the Surgical Society of Ireland, and was published in the *Dublin Medical Press* for May 2, 1860.

SECONDARY HÆMORRHAGE AFTER PARTURITION.*

By the term "Secondary Hæmorrhage," I understand any profuse discharge of blood from the vagina, commencing after a patient has been six hours delivered, and within a month from this event. This definition is in accordance with the rule laid down by Madame Lachapelle: "Après l'accouchement, le nom *d'hemorrhagie* doit être rèservé à toute perte plus considerable que ne doivent être les lochies, et moins distante de l'état de couches que ne doit être le premier retour de l'èvacuation menstruelle." The term "menorrhagia lochialis" is employed very much in this sense by Dr. Burns. I think, this latter term, however, should not be thus generally used, but should be restricted rather to the prolonged continuance of red lochial discharge—a sort of chronic hæmorrhage, it is true, but very different from that to which this paper relates. Under the above designation (*i. e.* secondary hæmorrhage) Mr. Roberton does not include the floodings which are due to the retention of

* The substance of this memoir was originally published in *The Dublin Quarterly Journal of Medical Science* for May, 1851; and, as the proof sheets were being corrected, Mr. Roberton's volume of "Essays and Notes on the Physiology and Diseases of Women, and on Midwifery," was published, in which is a chapter on "Secondary Hæmorrhage,"—the very same title as I had chosen for my paper. In it Mr. Roberton relates the histories of fourteen cases of secondary hæmorrhage which had fallen under his own observation. I have entirely recast my former paper, and have somewhat condensed it without essentially altering the views or opinions it contained.

portions of the after-birth; but, for this exclusion, I can see no valid reason.

The uterine hæmorrhage of pregnancy and that which occurs within the first hour or two after delivery are familiar to all accoucheurs, and their causes and treatment are described in every systematic treatise upon midwifery. Not so, however, the species of hæmorrhage which forms the subject of this memoir: it is imperfectly understood, and has received but little notice from obstetric writers. And yet it has many claims upon our attention. It is not very rare; it may prove dangerous or fatal; and the causes of its occurrence are various. The circumstances, moreover, under which this flooding usually presents itself are such, that it not unfrequently takes the practitioner by surprise, and creates considerable alarm in the minds of the patient and her friends.

With respect to the *frequency* of this form of hæmorrhage, I think there can be few men of even moderate experience, who have not met with one or more examples of it. Mr. Roberton details *fourteen* cases, which had fallen under his observation, and he alludes to others; Dr. Arneth mentions *three*, in his brief clinical report of one division (that for the female pupils) of the Vienna Lying-in hospital; Drs. Sinclair and Johnston record *five* cases; Dr. Collins *five;* Dr. Hardy and myself *three;* and during my seven years' mastership of the Lying-in hospital, there occurred about *ten* cases. Were it necessary a much longer list of references could be given, as cases of secondary hæmorrhage are incidentally mentioned by other obstetric writers.

The danger attending upon this variety of flooding is materially influenced by the *cause* of the hæmorrhage, of which we cannot always be cognizant, except when the opportunity of a *post mortem* inspection is afforded to us. Among the cases mentioned by the above writers, six deaths occurred; and, in each of these instances, the immediate, and apparently the sole, cause of dissolution was the hæmorrhage. There are good grounds for believing that this fatal result

may be brought about solely by hæmorrhage, independently altogether of any organic lesion of the uterus or vagina.

For some days after mature delivery, the uterus freely permits the escape of blood, unless the conditions normally existing to provide against such an occurrence be strictly complied with. These conditions, upon which so much depends, are, the due contraction of the uterine fibres, and the state of the vascular system generally and locally. So nicely poised is the balance between these agencies, that a very slight disturbance may suffice to produce flooding. If, for instance, the uterus relax, or be interfered with in its contraction; or, if the blood rush with unusual velocity into the uterine vessels, under the influence of general vascular excitement, or local determination, or even from gravitation of the blood in consequence of a sudden assumption of the erect posture,—then, in any of these cases, the barriers to the escape of the vital fluid may be overcome, and hæmorrhage be produced. Hence, also, a degree of contraction capable of resisting the escape of blood when the circulation is tranquil, may in an opposite state of the vascular system prove wholly inadequate. This fact, supported alike by reason and experience, is noticed by Ingleby and some other practical writers. Dr. Gooch erroneously thought that hæmorrhage, coming on under these circumstances, was "a peculiar form," and as such described it, for which he has been severely though not unjustly criticised.

The great facility with which blood escapes from the uterus, especially during the period of its involution, is most remarkable. Three circumstances in the vascular structure of the organ undoubtedly conduce to give it this peculiarity. One is the extraordinary size and number of the uterine veins, or sinuses as they are appropriately designated; a second is the tendency of these to open by lateral foramina on the internal surface of the organ; and a third, the complete absence of valves in the venous system of the uterus. The blood which is discharged in these hæmorrhages, as well as in those supervening more immediately upon delivery, is mainly or altogether venous in its character.

The *causes* which may directly or indirectly bring about secondary hæmorrhage are as follows:—

1. Disturbances of the vascular system.
2. Relaxation of the uterus.
3. Retention of a portion of the secundines, or retention of a coagulum.
4. A polypus of the uterus.
5. Inversion of the uterus.
6. The bursting of a uterine hæmatocele.

Besides these there are some other causes which, on very rare occasions, have operated in the production of secondary hæmorrhage, viz., *a*, sloughing of the vagina; *b*, constipation; *c*, ulceration of the os uteri; and *d*, growths from the interior of the uterus.

Each of these causes requires a separate consideration, and I shall, therefore, treat of them seriatim.

I. In a large proportion of cases it will be found, that the state of the circulation plays an important part in producing the hæmorrhage. To *disturbance of the general vascular system* may be referred all those instances of flooding brought on by the incautious use of stimulants, by mental excitement or agitation, by acute bodily pain, by over-exertion, or, in fact, by whatever tends suddenly to increase the force and velocity of the circulation. *Local disturbances* of the vascular system of the uterus are also competent to give rise to hæmorrhage, and may result from undue determination of blood to the sexual organs, or from assuming the upright position and thus throwing the weight of the column of blood upon the uterine sinuses too soon after delivery. Among the out-patients of the Lying-in hospital, I have known secondary hæmorrhage brought on by sexual intercourse eight or ten days after parturition.

Case 1.—*Secondary Hæmorrhage on 11th, 12th, and 13th days after delivery from over-exertion.* A lady asked me to prescribe for her children's maid, who had been confined of her second child in the Lying-in hospital twelve days previously. Her labor had been very rapid, and was followed by considerable flooding. She had returned home on the tenth day, and immediately entered upon her accustomed

duties. Hæmorrhage set in the following day, and recurred on the twelfth and thirteenth days. It was clearly traceable to over-exertion, and was permanently cured by rest, cold, and the administration of ergot of rye. "One of the most alarming hæmorrhages I ever had to treat," writes Professor Murphy, "occurred on the tenth day after delivery. The lady had gone on very well up to that time; but while sitting up in the evening in her bed-room, enjoying a hearty supper and the society of some friends, the stimulus of the one, and the excitement of the other, brought on a most unexpected and violent flooding, which required the utmost exertions to arrest.

Case 2.—*Secondary Hæmorrhage on tenth day.* On the tenth day from her third confinement, a lady of slight frame and very susceptible delicate constitution, was sitting up for the first time. Feeling somewhat faint after suckling, which caused her extreme pain owing to the abraded state of the nipples, she took from the nurse a little brandy in hot gruel, whereupon a gush of blood came from the vagina. This was at noon; twelve hours afterwards the hæmorrhage returned with greater violence, deluging all the bed-clothes and penetrating through the mattress so as to form a pool on the floor. She had to give up nursing, and did not recover from the effects of this loss for many weeks. Here the erect position, the exquisite pain caused by nursing, and the stimulating drink, all concurred to excite the hæmorrhage.

A case that well exemplifies the influence of sudden mental emotion occurred to Mr. Forbes, and is related by Dr. Murphy. A woman was confined on the 28th August, and "everything went on well until September 8th, ten days after delivery. At that period the uterus was reduced to its usual size; the woman had been sitting up for two days without any inconvenience or alteration in the lochial discharge. On the morning of the 8th a most violent flooding took place, accompanied by extreme exhaustion, from which the patient was recovered with the utmost difficulty. A difficulty quite as great was to ascertain the cause of the flooding—so violent, and occurring so long after delivery. It was revealed by

mere accident. It appeared that early on the same morning a former lover made his appearance at this most inappropriate time, the surprise of both can be conceived; but the effect of the violent mental shock on the patient was the hæmorrhage that followed."

As we possess no means of measuring the degree of uterine contraction, so we can never tell beforehand what amount of vascular disturbance may be borne without the escape of blood from the interior of the uterus. Should the process of involution of the uterus be interrupted, or not go on regularly, the vessels, which are still large, will be very apt to effuse their contents under any comparatively trivial excitement of the circulation. A knowledge of this fact points out an additional reason for enjoining strict rest and the horizontal position where the womb remains unusually large at a late period after delivery.

II. There are some considerations which favour, if they do not establish, the opinion, that on rare occasions secondary hæmorrhage is the consequence solely of *relaxation of the uterine fibres*. This is a point on which it is difficult to obtain direct evidence, and in the absence of such we must take collateral proof. Thus experience shows, that for several days after parturition, the uterus may occasionally admit of distension to a great degree. Ashwell once found it to measure twelve inches in a patient who died of uterine hæmorrhage on the eleventh day from her lying-in. Ingleby gives an instance in which so late as the nineteenth day after delivery, the womb was emptied of a large quantity of putrid blood. Dr. Collins narrates a case where the hand was introduced into the uterus, on the fourth day after parturition, for the suppression of hæmorrhage.

Case 3.—*Flooding twenty-four hours after delivery, requiring tampon.* A woman lay-in of her first child after a short labor. The placenta came away in half an hour under moderate pressure, but some hæmorrhage followed, and the uterus was much disposed to relax. Twenty-four hours after delivery there was a recurrence of the hæmorrhage with a flabby state of the uterus. Ergot of rye was administered

and cold applied, but without success; the loss of blood went on slowly but continuously. Examination *per vaginam* was made, but nothing abnormal could be detected. The patient became extremely weak, and the pulse thready. Plugging of the vagina was now resorted to, and the belly was at the same time carefully padded and bound so as to prevent any enlargement of the uterus by internal hæmorrhage. Brandy had to be freely administered to counteract the depressing effects of the loss. A blister was also applied over the sacrum. The plug was removed in twenty-four hours, and she had no further return of the hæmorrhage. In this, as in many other cases of secondary hæmorrhage, we may observe that it had been preceded by flooding at the time of delivery.

From the numerous and strongly-marked sympathies of the uterus, it is reasonable to conclude, that for some days, at all events, after parturition there may be an interruption of its contractile function, through the influence of deep mental impressions, or certain bodily derangements. Thus Perfect tells us of a lady, who some weeks after delivery was seized with a violent flooding, caused, he says, "by waking in a hurry from a frightful dream." Though the cases may be very few in which secondary hæmorrhage results from simple relaxation of the uterus, still it can barely admit of question, but that this is often an efficient co-operative cause in producing or keeping up the sanguineous flux. In the case I am about to quote from Dr. Collins' Report, it would almost seem that the outbreak of hæmorrhage was solely due to uterine inertia. "This woman had considerable hæmorrhage on the fourth day, which had continued, more or less, for three hours before we were called. The uterus was distended, but contracted under firm pressure, and the discharge subsided. In less than an hour it returned, when the hand was passed, some clots removed, and cold applied, which arrested the discharge; an opiate was then given. In seven hours she had a third attack, when the hand was again introduced, on which the uterus contracted; firm pressure was made over this organ, another opiate was given, when she fell asleep and had no return."

Where the restoration of the uterus to the normal unimpregnated state does not go on regularly, it is liable to relax and permit the escape of blood. In the following case, it is impossible to say, whether the flooding was altogether due to relaxation of the uterus, or not; but in the absence of any other assignable cause, I may relate it here.

Case 4.—*Dangerous floodings on the 8th, 9th, 12th, and 18th days: tampon.* A delicate woman, aged 28, was confined of her first child, which presented footling, on 11th February, 1859, in the Lying-in hospital. Very profuse hæmorrhage followed the expulsion of the after-birth. She went on very well, however, till the eighth day, when smart hæmorrhage again came on, requiring the use of cold, ergot, and wine. The uterus could be felt above the pubes. She was kept strictly quiet; but on the following day the flooding recurred, and in such quantity as to cause much depression. Dr. Byrne,—the Assistant on duty at the time—seeing that the ordinary means failed to check the discharge, plugged the vagina, whereby the hæmorrhage was at once controlled. She was alarmingly weak, and the stomach so irritable that a teaspoonful of fluid was with difficulty retained. Recourse was, therefore, had to small enemata, not more than four ounces at a time, of equal parts of port wine and cold beef tea. The plug was removed on the 21st, but the next day a recurrence of the flooding in quantity, with symptoms of extreme weakness, compelled us to reintroduce it; and from the constant tendency to syncope, the lower end of the bed was elevated one foot higher than the upper end, so that her head was kept below the level of the trunk. During the course of the next six days, the plug was seldom out of the vagina for more than a few hours at a time, for a renewal of the discharge generally followed its withdrawal, and obliged us to replace it. Her strength was kept up chiefly by the enemata, as very little food of any kind could be borne on the stomach. When the bowels did not act for four or six hours after the administration of the nutritive enema none of it was to be seen in the evacuation, thus proving that it must have been taken up by the absorbents.

These repeated and violent floodings reduced her to a very weak and anæmic condition. She was not able to leave the hospital till the 14th of the following month.

By the use of the tampon this woman's life was, unquestionably, preserved from immediate destruction on three or four occasions; whilst by the nutritive enemata, the otherwise fatal effects of the hæmorrhage were averted. She was repeatedly examined with the finger and speculum, but no diseased state of the uterus could be discovered. Shortly after her returning home this woman got puerperal mania, of which I believe she has since recovered.

III. A not uncommon cause of secondary uterine hæmorrhage is the *retention of a coagulum*, or of *a portion of the placenta* or *membranes*. A coagulum of any size is not apt to be found in the womb beyond the first few hours after delivery, as a very moderate degree of uterine action would be sufficient to expel it, or to prevent its formation. Should it occur, however, and experience abundantly proves that it may, there will be a constant risk of hæmorrhage so long as the clot remains in utero. No doubt, the hæmorrhage in these cases is apt to go on continuously after the expulsion of the placenta, even with a tolerably firm contraction of the uterus, as Dr. Ramsbotham has well shown. But on other occasions there is an intermission in the hæmorrhage, and it may not come on for hours or days after delivery. Thus, a woman had frequently recurring attacks of hæmorrhage during the ten days following delivery, until at length, the loss becoming dangerous and her strength much reduced, "the hand was passed into the vagina, and the fingers introduced into the uterus, by which means some coagula were removed and the discharge ceased." (Collins.) A fatal case of secondary hæmorrhage on the eighth day, apparently from retained coagula, occurred to Madame Lachapelle. It was the patient's first accouchement, and she had given birth to twins. Immediately on the expulsion of the two lobed placenta, flooding took place in such excessive quantity, as to place her life in great danger for several hours. Notwithstanding this she progressed favorably until the eighth day,

when, in attempting to get up, the hæmorrhage recurred, and along with it there now came away two fetid clots, which this able *accoucheuse* considered were the cause of the fresh accession of bleeding. It was only by the liberal employment of cold that the discharge was checked, but not before the vital powers had sustained a shock from which they could not recover. The woman died in the course of a few hours.

Case 5.—*Hæmorrhage on seventh day, preceded by metritic symptoms.* This patient was confined of her second child after a short and easy labor unattended by hæmorrhage. She suffered a good deal from after-pains for three days following delivery; and the lochial discharge was rather abundant. On the fifth day, there was some uterine pain and tenderness with acceleration of pulse. These symptoms were removed by simple treatment, and she appeared to be getting on well, until the evening of the seventh day, when internal hæmorrhage took place, distending the uterus till its fundus reached nearly to the navel. By pressure and friction a large quantity of clots and fluid blood were expelled, whereupon the uterus contracted and the hæmorrhage ceased. She was very much weakened by this unexpected loss, but her convalescence proceeded favorably afterwards.

At page 191 is the history of a case where a very compact coagulum, to all appearance the exact size and shape of the uterine cavity, formed after delivery at term, and was retained for a period of three weeks, when it was expelled, the attending hæmorrhage not being considerable.

Where a *bit of the placenta* remains behind in the uterus, it is generally the result of the artificial removal of the after-birth, especially if the operator be incautious or timid; but it may happen in the most skilful hands where the cause for manually extracting the placenta was its morbid adhesion to the uterus. The occurrence of secondary hæmorrhage is often regarded as a sort of *prima fâcie* imputation on the accoucheur in attendance, implying some mismanagement of the third stage of labor, or some want of prudence in the

subsequent treatment of the case. Without attempting to deny that this variety of *post partum* flooding is occasionally the consequence of ignorance or rashness, still, no one can affirm that it is always so, no more than it could be said of convulsions, ruptured uterus, or of any of the other numerous casualties incident to childbed. Secondary hæmorrhage may arise, then, without a shadow of blame being attributable to the attendant. To remove a morbidly adherent placenta completely, may be impossible; and it is the lesser of two evils, to leave a bit of the placenta behind, than to take a bit of the uterus away.

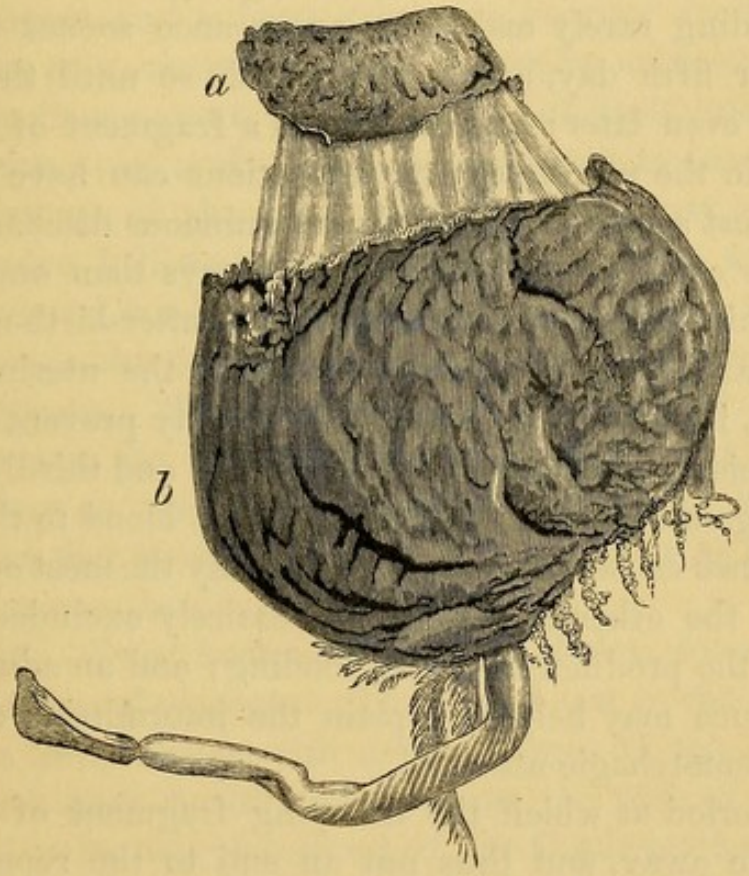
But again, in view of these cases, it is important to bear in mind that there may be a supplemental placenta—*placenta succenturiata*, or *placenta spuria*, as it has been called—the retention of which would give rise to the hæmorrhage and other symptoms. "Sometimes," writes Dr. Barnes in his Lettsomian Lectures on Placenta Prævia, "a placental mass of the size of a crown-piece or larger is found wholly separate from the main placenta. This is not an unfrequent cause of secondary hæmorrhage after delivery. The *placenta succenturiata* remains adherent after the expulsion of the true placenta and the bulk of the membranes." In the museum at the Lying-in hospital there is an admirable preparation, exemplifying this anomaly. I obtained it from an ovum of five months. The proper or true placenta has the normal size for this period; and at about an inch distance from its edge, and connected with it by the membranes, is the supplemental placenta, having nearly the same thickness as the proper organ, and covering an oblong space about as large as a penny. By the simple tearing of the membranes these detached lobes might have been retained in utero, without any fault whatever on the part of the attendant, and without his having cause even to suspect what had taken place.

The annexed plate (fig. 30) represents (*b*) the true and (*a*) the false placenta, half the original size.

It seems to me highly probable, that the retention of a supplemental placenta may have been the cause of the secondary hæmorrhage in a case which occurred a few years

ago in London, and which acquired much notoriety in consequence of the warm correspondence that took place about it in the periodicals. At all events, such an occurrence would have reconciled the apparently conflicting statements of all the parties concerned, viz., of the attendant (on whom much blame was cast), that the placenta had come away unbroken; and of the consultants, that the substance discharged some days after delivery was placental in its structure. With such a possibility before us, we should certainly be very slow to utter any opinion that might prejudice the character of a professional man, or impugn his veracity.

FIG. 30.



a Supplemental, and *b* the True Placenta, from an ovum of five and a-half months. One half the size of original.

When, unfortunately, a piece of placenta is retained in the uterus, it seldom produces any untoward symptom before the third or fourth day. If it is not cast off by this time a train of symptoms usually develop themselves, which, viewed in the aggregate, will admit of an easy interpretation. To give

any minute or lengthened detail of them would be here out of place; I must only refer the reader to the works of Charles White, John Clarke, Ingleby, and John Ramsbotham, by all of whom they have been fully and accurately described.

I cannot agree with Baudelocque, nor with Jacquemier, that hæmorrhage is not only the most common accompanying phenomenon but the source of greatest danger, in retention of portions of the placenta. What is most to be feared in these cases is the supervention of uterine or crural phlebitis. At the same time I must observe, that the instances are numerous in which a fatal termination has been brought about by the hæmorrhage alone. Many such cases are recorded by Lamotte, Perfect, White, Ashwell, Ingleby, Lee, Murphy, &c. The flooding rarely makes its appearance sooner than the fourth or fifth day, and it may not do so until the second week, or even later; and so long as a fragment of placenta remains in the uterine cavity, the patient can have no security against a recurrence of the sanguineous discharge. Its retention operates probably in more ways than one in producing this result. First, the portion of after-birth may occasion a partial and temporary inertia of the uterine fibres; secondly, it may, by its bulk, mechanically prevent the due and sufficient contraction of these fibres; and thirdly, it may excite a greater or less determination of blood to the organ. The last two causes, perhaps, are generally the most operative; but still the other should not be entirely excluded from a share in the production of the flooding; and an admission of its influence may help to explain the intermitting character of the hæmorrhagic attacks.

The period at which the decaying fragment of placenta may come away, and thus put an end to the repeated discharges of blood, is exceedingly variable. Sometimes it is deferred until the third week, or even later. Dr. Ingleby is of opinion, that the retained portion may become so far identified with the lining membrane of the uterus as to render a distinct and perfect separation impracticable. He recites a case where "the hæmorrhage began on the third day after delivery, and, with the exception of a few short intermissions,

continued during a period of five weeks, when it terminated in death. On inspecting the body, a tumour of rather florid colour, and the size of the largest walnut, was found firmly adherent to the sides of the fundus uteri at its highest part; the lining membrane covered the greater portion of the mass, though not its centre, which was ragged, and vessels could be traced opening upon it."

In the following case there can be little doubt that the "hard substance" was a retained portion of the placenta, enveloped in coagulated blood. "I was sent for to a woman," says Chapman, "who was seized with a flooding at the end of six weeks after her delivery. When I came to make a proper inquiry, I found the womb open enough to receive three fingers, and a hard substance bearing down. There was some pain, or rather an endeavour in nature to cast out this superfluous guest; but it was not of itself sufficient, and the woman must undoubtedly have flooded to death without the assistance of the hand. By stretching out my fingers far asunder, I dilated the mouth of the womb much more than at first I found it, and then brought away a firm fleshy substance in the form of a turkey's egg, and nearly of the same bigness. The woman was very weak, but by proper management she recovered." In the very next paragraph he informs us, that he "could give many instances of this kind;" so that he evidently did not regard it as a singular or uncommon case.

Case 6.—*Fatal hæmorrhage on ninth day, from retention of a portion of placenta.* This case I saw in the autumn of 1846, in consultation with a practitioner of this city. The patient, a stout healthy woman, was the wife of a butcher living in the neighbourhood of the Castle-market, and had been confined of her sixth child seven days before my visit. The history I got was as follows:—the child had presented with the feet, hæmorrhage took place soon after its birth, and on introducing the hand for the placenta, this was found so intimately adherent to the uterus, as to render its removal difficult and incomplete, some portions remaining behind. She went on, however, most satisfactorily until the fifth day,

when she had a sudden and profuse dash of hæmorrhage, which recurred again and again at intervals. At the time of my visit (for I only saw her once), she was much blanched and nearly pulseless, but no discharge of blood was then going on. Late on the afternoon of the ninth day, there having been some loss in the interval, the hæmorrhage broke out afresh with great violence, and before assistance could be obtained she was a corpse. In this instance, it is remarkable, that the flooding was the only untoward effect of the retention, no fever or local irritation having been induced. At the time of my seeing her she had a plentiful secretion of milk. I hesitate not to say, that this woman's life might have been saved by the timely use of the tampon.

IV. A *uterine polypus* may for the first time make its appearance after delivery, and sooner or later bring on hæmorrhage. Many cases of this kind are upon record. Such a cause for the flooding can only be known by digital examination; and when discovered its management will require grave consideration. The treatment of this variety of secondary hæmorrhage belongs properly to the subject of uterine polypus, to the memoir upon which, I must beg to refer the reader for the few remarks I have to make concerning it.

V. *Inversion of the uterus* is another and a very serious cause of secondary hæmorrhage. Where this displacement exists flooding is sure to accompany it, and may be the first symptom that prompts us to make the examination by which the existence of the malposition is detected. As a memoir upon the subject of Inversion of the Uterus, will be found in another part of this volume, it is needless to say anything here of its diagnosis or treatment; I merely mention the displacement now as being a very efficient, though happily not a common cause of the species of flooding we are engaged in considering. I would, however, again impress on the practitioner the importance of instituting careful physical examination in every case of secondary hæmorrhage, and not to depend on rational signs as the foundation of his diagnosis.

VI. It has elsewhere been shown, that a thrombus or hæmatocele may develop itself in the substance of the os or cervix

uteri as an effect of labor. This true *uterine hæmatocele* may form in the first stage of labor, and escape being ruptured during the passage of the fœtal head; or, it may form at a later period; in either case, it may not give way for some days after delivery; but when the event does take place a serious or fatal hæmorrhage may ensue. Such a cause for secondary flooding is probably rare; but as it has only once been diagnosed during life, so far as I know, it may happen less rarely than we at present imagine. In the memoir upon Pudendal and Uterine Hæmatoceles, further remarks will be found upon the subject, together with the details of two cases where secondary hæmorrhage, from this cause, rapidly extinguished life.

The six foregoing are, I think, the principal causes of secondary hæmorrhage after parturition. To them we may add a few others, which on solitary or extremely rare occasions have given rise to flooding, and which it may be well to glance at here before proceeding to consider the treatment.

a. Sloughing of the vagina, if involving the upper part of the canal, and of an extensive kind, may lay open some branch of the pudic artery, and cause a profuse or fatal effusion of blood. One example of this fell under my observation, and is here detailed.

Case 7.—*Fatal Hœmorrhage on twenty-first day, from sloughing of vagina.* A woman, aged 30, was confined of her first child, after a protracted labor, characterized by great atony of the uterus. Three doses of ergot of rye were given in the second stage, and under their influence the child was expelled; and, most probably, hæmorrhage prevented. She was an unhealthy broken-down-looking woman, and deep sloughing of the genital passages set in soon after delivery. Notwithstanding this, however, she seemed progressing favorably. Towards the end of the third week, when the sloughs were still coming away, and the patient of course very weak, hæmorrhage from the vagina suddenly came on. Every mode of treatment, the plug alone excepted, was tried, but without effect; the bleeding persisted, and

within a brief period the woman sank. The blood was remarked to have an unusually florid colour.

The particulars of this case were submitted to the Obstetrical Society by Dr. Sibthorpe, and I assisted him in making the *post mortem* examination. The womb was found well contracted, of the natural size at this period, and without any trace of blood in its interior. A large coagulum was found in the vagina. The sloughing process had extended quite through the walls of this canal at the left side, corresponding in situation to the descending ramus of the pubis; and it was supposed that the coats of the pudic artery or of some branch directly passing from it had been destroyed, whereby the hæmorrhage was produced. No other source for the hæmorrhage could be discovered.

b. A *constipated state of the bowels* is capable of acting as an exciting cause of secondary hæmorrhage, of which Moreau gives a striking instance. Nor is this at all surprising, when we consider how closely the lower colon and the rectum are connected with the uterus by position and by sympathy. Moreover the relation of the rectum to the left iliac vein is such that any inordinate distension of the former would be likely to impede the return of blood from the womb. Examples of this variety of secondary flooding are not likely to be met with in consequence of the almost universally prevalent practice of giving purgative medicine to women in childbed. Nearly allied to this cause of hæmorrhage is that which Dr. Ayre has described. In his Practical Observations on the Diseases of the Liver, this author assures us that he has known secondary uterine hæmorrhage to have been produced by functional disorder of the liver, and to have been suppressed by the administration of calomel. "That the uterine hæmorrhage," he writes, "thus occurring during the first two or three weeks after delivery is generally a symptom only of this functional disturbance of the liver, has not, I believe, been hitherto suspected; that it is, however, to be so regarded I can venture to pronounce from repeated observations made upon the disorder, and upon the means that are most efficient for its removal. It is now some years since I

was first struck with the power which calomel purges appeared to possess in relieving uterine hæmorrhage, as met with in the women belonging to the Lying-in Charity, for whom they were prescribed simply with a view to their purgative effects. At first I ascribed the effect of the purge in relieving the hæmorrhage to the evacuation of morbid matters from the bowels; but further and more accurate observations of the colour and condition of the stools, of the course of the disorder, and effects of the remedy, convinced me that the mere removal of the fœculent matters from the intestinal canal, though a proper, was nevertheless only a subordinate object, and in cases of excessive uterine hæmorrhage was utterly unavailing; for, independently of other considerations which militate against that conclusion, a uterine hæmorrhage will often come on after the brisk operation of the purge, and even where a spontaneous diarrhœa has for some time existed; and it will cease under the use of calomel alone or combined with opium, when the effect is simply to change the morbid actions of the liver and other organs of digestion, and in that way correct the unhealthy condition of the stools, and abate the frequency of their discharge. The cause, in fact, consists in a sudden interruption of the secretory function of the liver, which gives rise, in an aggravated degree, to an abdominal venous congestion in which the uterus may, perhaps, participate; and the indication of cure for the hæmorrhage, as well as other symptoms, will be found to be answered fully by restoring the biliary secretion. And as the danger in all these cases is imminent, it is of the utmost importance to be prompt in the use of those means which are suited to this end." After pointing out the caution to be used in the administration of diffusible stimuli, and giving some other general directions, he continues: "Calomel is the medicine which must be mainly relied on, and it must be given in small but frequently renewed doses, following them up by aperients, or combining them with minute doses of opium where a diarrhœa is present, and continuing them until some impression be made upon the complaint, even at the risk of slightly affecting the

mouth. By such means, indeed, I have had the satisfaction to save several women, whose condition to the attendants appeared hopeless; and it is under the full experience and assurance of their efficiency that I venture thus in the most unqualified manner to recommend them."

These observations from so high an authority deserve attention. Without wishing to detract from their value, I may still be allowed to say that I feel a difficulty in understanding how any functional disturbance of the liver could directly affect the uterus so as to induce flooding. There is no particular sympathy between the two organs; neither does any of the blood from the uterus enter the portal system. The mode of action of the calomel in suppressing the hæmorrhage must be by its purgative quality, or by the direct hæmostatic property of mercury when given to such an extent as slightly to affect the system. Dr. Ayre himself says that the calomel must be frequently given, so as "slightly to affect the mouth." Of this astringent or hæmostatic effect of mercury I have elsewhere spoken more at length. (See p. 145.)

The following case is given by Dr. Ayre: "A case of the most alarming kind fell under my care some months ago, along with my friends, Messrs. Saner and Sleight, gentlemen of considerable practice of this place. The hæmorrhage came on about three weeks after delivery, and was most profuse; the complexion of the patient was sallow and death-like; the stools had the colour of coffee-grounds, and very fœtid; the mind timid and highly excitable, and occasionally indistinct; she frequently fainted as she lay in bed, and impatiently demanded to be fanned, and to have cold drink. Our treatment was directed exclusively to the correction of the congestive state of the liver, by restoring the biliary secretion, and we gave calomel in small doses frequently renewed. The hæmorrhage became inconsiderable, and the other symptoms were much less urgent after some doses of that medicine had been taken; but it was not until after two or three weeks had elapsed, and when the mouth had become slightly sore, that the biliary secretion

was fully restored, and that the lady could be considered as convalescent."

c. According to Dr. James Henry Bennett, "the most prominent of all the symptoms occasioned by the presence of *inflammatory ulceration of the cervix*, during the puerperal state and after abortion, is hæmorrhage. Under ordinary circumstances the sanguinolent discharge which follows parturition soon becomes modified, and ceases in the course of a few days, being replaced by the ordinary lochial secretion. When there is ulceration the flow of blood often continues, in greater or less quantity, for three, four, six, eight, or more weeks. The blood thus excreted may be pure, or it may be mixed with muco-pus. This hæmorrhage generally resists the action of all the usual anti-hæmorrhagic remedies; its continuance frequently producing excessive debility and anæmia." He further remarks: "I have no hesitation in saying that when hæmorrhage continues after parturition for weeks beyond the usual time, there will *nearly always* be found some inflammatory and ulcerative lesion of the cervix, and that an instrumental examination is indispensable. Once the real nature of the disease is ascertained, the hæmorrhage may, generally speaking, be immediately stopped by the cauterization of the ulcerated surface, from which it seems in these cases principally to proceed."

These truly practical observations would appear less applicable to secondary hæmorrhage, properly so called, than to those cases of profuse or long-continued lochial discharge to which alone the term "menorrhagia lochialis" should, I think, be restricted. But, even with the utmost latitude in the interpretation of the cases here spoken of there may still be some exaggeration as to their frequency. Dr. Bennett himself tells us that "inflammatory ulceration of the cervix uteri during pregnancy is of frequent occurrence," which can hardly be said of lochial menorrhagia. As, however, I have not often deemed it necessary to use the speculum in the latter months of gestation, or during the puerperal state, I cannot offer any decisive opinion derived from my own experience in this matter. This much I can say, that many

patients affected with chronic inflammation and ulceration of the os uteri have been delivered under my care, who, nevertheless, had no subsequent attack of hæmorrhage or extraordinary amount of lochial discharge: and that in none of the cases of secondary hæmorrhage which were submitted to ocular examination, was there any ulceration present.

d. Secondary hæmorrhage to a fatal extent has, in a very few recorded instances, been the result of *vascular or fibrous growths from the interior of the uterus.* It will suffice to relate an example or two of this variety of flooding.

For the following history I am indebted to Dr. Churchill, who was called into consultation in the course of the case. A lady had been safely delivered, under the care of Mr. Speedy, of a living child, after a natural and easy labour, without more discharge than ordinary. She apparently recovered, so that her attendant discontinued his visits; but about three weeks or a month after her confinement she was attacked with uterine hæmorrhage to a considerable amount, which returned in less quantity, and continued, with occasional intervals of a day or two, until her death, which took place about a month afterwards. On examination all the organs were found to be healthy, except the uterus. At its fundus there existed a vascular growth, like an erectile tumour and about the size of a hen's egg, projecting into the cavity, and occupying the thickness of the uterine parietes in this situation. It was spongy, soft, and could not be enucleated. The entire uterine substance was displaced or absorbed at that part.

Professor Kilian, of Bonn, has published the details of a case very much resembling this. A healthy young woman was confined in the Maternity Hospital at Bonn. Her convalescence proceeded most satisfactorily up to the fourth day, when she was suddenly seized with a violent flooding. Before the nurse and house surgeon could come to her assistance, the hæmorrhage had ceased. When Dr. Kilian arrived she had in a great measure recovered from the fainting fit into which the sudden loss of more than two and a half pounds of blood had thrown her. He found the uterus properly

contracted, uniformly firm, and free from tenderness. The os uteri presented no coagulum, and was not more open than it usually is four days after delivery. Dr. Kilian was perfectly ignorant of the cause of this hæmorrhage, which again recurred on the 7th, 13th, and 26th of the month, each time the loss being very sudden and profuse. After this last attack she remained very much debilitated and exhibited great despondency. The circulation was rapid and the respiration correspondingly affected. On the 3rd of the following month, during the visit of the physician, there was a renewal of the bleeding, which ended in convulsions and death. "At the post mortem examination, all the viscera were found in a normal condition, except the uterus, and a cursory inspection of that did not betray its disease. It was pale, contracted, and firm; but on its front surface was observed a circular spot, rather larger than a half-crown piece, of a pale red colour, and less firm than the rest. An incision was made in the uterus posteriorly, and on its internal surface was discovered a tumour, corresponding to the above-mentioned spot, two inches long, and one and a half broad, of which the covering membrane hung down into the cavity of the uterus, and thus facilitated the inspection of its internal structure. This was extremely vascular; on looking into it, the open mouths of the innumerable vessels were easily discernible by the naked eye. Around the tumor the substance of the uterus was rather softer than elsewhere, and the numerous vessels leading towards it formed a concentric net-work."*

* A case resembling this in its pathological features is narrated by Dr. Carswell. A lady, aged 45, died from the effects of uterine hæmorrhage, to attacks of which she had been subject for some years. "The only morbid appearance found consisted in a round, flat tumour, nearly three inches in breadth and half an inch in thickness, situated at the fundus uteri, and projecting into the cavity of the organ in the form of a mushroom. It appeared at first sight to form part of a large fibrous tumour situated posterior to it, and contained in the substance of the uterus. It was, however, a distinct tumour, the central portion of its posterior surface being but slightly attached to the mucous membrane, and was composed of a cellulo-vascular tissue, with here and there small cavities filled with a yellow-coloured serosity, or a fluid resembling chocolate. The free surface was covered by a smooth membrane, presented a mottled aspect of grey, blue, red and yellow,

In discussing the *treatment* of secondary hæmorrhage, I shall, so far as it may be found convenient, follow the same order as that in which its causes have been described.

It is not to be expected that in every case coming before us we shall be able to discover the particular cause of the bleeding, no more than can be done in every case of hæmatemesis, or of hæmoptysis. We should, in the first instance, however, make careful internal and external examination of the uterus, so as to ascertain, if possible, whether there be any inversion, or polypus, or ulceration, or retained bit of placenta, to account for the sanguineous discharge. The absence of these causes of secondary hæmorrhage is encouraging for the prognosis, and in some degree simplifies the treatment. In all examples of this kind we must only be guided by the following general principles, viz.: to tranquillize the circulation, both local and general; to promote the condensation or contraction of the uterine structure; and to use such constitutional and local remedies as may tend to favour coagulation at the mouths of the vessels. It may occasionally happen, even where we know what the exciting cause has been, and are fully alive to the importance of its removal, that this may be a matter of secondary consideration only, the first object being to palliate the present urgent symptom—in other words, to stay the effusion: having effected this, we can devise at leisure the best means of obviating the conditions which have led to the outbreak of hæmorrhage.

In fulfilling the first and second of the above indications of treatment, the means to be employed are sufficiently obvious. Perfect rest in the horizontal position is to be strictly enjoined, and stimuli of every kind rigidly withheld; the patient must lie on a hard bed in which her hips cannot sink; and firm pressure, with occasional friction, should be made over the uterus, so as to promote its contraction and

and was traversed by numerous varicose vessels, some of which were pretty large. From these vessels, I believe, the hæmorrhage proceeded; and it is probable that the periodical character of the discharge, and the frequency of its recurrence, depended on the erectile nature of the tumour."—*Pathological Anatomy*, fasciculus 10, plate iv. fig. 2.

expel any coagulum that might be lodged there. At the same time, the ergot of rye should be administered with as little delay as possible. Fifteen or twenty grains of the fresh powder—for I believe it to be more certain and efficacious than any other preparation of the medicine—may be given at once, and repeated, if necessary, in half an hour. If the discharge be not profuse, it may be more advisable to administer the ergot in five or ten grain doses every three or four hours; but in all cases I would recommend the first dose to be a full one.

If the patient be only a few (three or four) days confined, it is not desirable, on slight grounds, to have recourse to the employment of cold: uterine inflammation might be produced by it; and thus in avoiding Scylla we should fall into Charybdis. But if she shall have been longer confined, this objection of course does not apply. The ordinary modes of using cold on these occasions are well known, and need not here be described. Of these the most efficacious is the enema of cold water and common salt. Cold injections into the vagina also, prove serviceable sometimes. Having by the diligent and judicious use of these means subdued the discharge, the administration of a moderate dose of black drop, or chlorodyne, may be resorted to with advantage. It proves useful in many ways, allaying nervous excitement and irritation, promoting sleep, and tranquillizing the circulation.

It occasionally happens that these means are found inadequate to accomplish the desired end, and something further must be done. To meet this exigency we possess a very powerful resource in the tampon or plug. The danger to be apprehended in using it is internal hæmorrhage. Baudelocque and Madame Lachapelle have both recorded cases where a fatal result was produced in this way, one on the seventh and the other on the fifteenth day after delivery. The latter author is of opinion that if the patient have been one or two weeks brought to bed, it is barely possible for the uterus to become distended with blood. In every case, however, such a contingency can and should be guarded against, by securing a pad over the uterus with a well-applied binder; and if this

be not deemed a sufficient provision, we can make "assurance doubly sure" by examining from time to time over the hypogastrium, to satisfy ourselves that the womb is not enlarging. Leroux and Chevreul are strong advocates for the tampon, and Baudelocque, though he considered it a last resource, nevertheless admits that he employed it many times with success. Dr. Ingleby says he used it "with the best effect in hæmorrhage imminently dangerous, as late as fourteen days after delivery, the uterus being firmly contracted." "More than once," he adds, "I think I have preserved life by the agency of the plug." If the vagina be inflamed or sloughing, either of these conditions would of course strongly contra-indicate the use of the tampon, and under such circumstances nothing but dire necessity could justify its employment. In such a case as this I should prefer trying in the first instance an injection of cold water, or, better still, of cold infusion of matico, or decoction of oak bark and alum, into the vagina. I have already related a case (4,) where the patient's life was undoubtedly preserved by the use of the plug. In order still further to illustrate the immense value of this resource in the class of cases now under consideration, I must be permitted to adduce one more instance which occurred under my own observation in the Lying-in hospital.

Case 8.—*Hæmorrhage twenty hours after delivery: tampon.* A healthy woman lay-in of her fifth child at mid-day after a labor of six hours. The placenta came away in twenty-five minutes, and was followed by a slight discharge of blood, which ceased upon tightening the binder and applying a cold wet napkin to the vulva. In the afternoon she had a return of hæmorrhage but it was not severe, and yielded to friction and cold. She remained quite free from all discharge until the following morning, when, on making some exertion, the hæmorrhage broke out afresh. The usual means, such as ergot, friction, cold, &c. were now diligently employed, but without avail. There was only one remedy left, and that was the tampon. To its employment there was the less objection, as the uterus felt pretty firmly

contracted. Accordingly, the vagina was plugged (the usual precautions being observed against internal bleeding), and this effectually put a stop to all further loss. The pulse continued quick for several days, and she suffered considerably from headach; but there was no other untoward symptom, and she made a good recovery.

Where the hæmorrhage manifests a disposition to recur, or where it is not very profuse in quantity, we should have recourse to constitutional means for its suppression. Keeping in mind the hint which Dr. Ayre's remarks supply, we should satisfy ourselves that the liver and bowels are in a healthy state of action, and, if necessary, prescribe some opening medicine. Where this has been attended to, but without effect on the sanguine discharge, some medicine belonging to the astringent or styptic class should be tried. Acetate of lead is the one most extensively used, but though it enjoys high reputation as a styptic, I cannot say I have ever seen any striking or marked result from its employment in these cases, and such is also the experience of Mr. Roberton. Dr. Ingleby recommends it specially in irritable habits, but he also says, "under much depression it will be quite inadmissible." It is not improbable that much of its utility in cases of hæmorrhage is to be attributed to its sedative property. It is best given in solution, with an excess of acid, and with the addition of a small quantity of acetate of morphia. The same accoucheur states, that in cases of the kind now under consideration he "can with much confidence recommend the sulphate of zinc, in pills of one or two grains, combined with a quarter or half a grain of opium, or exhibited in the infusion of orange-peel." The dilute sulphuric acid is another remedy largely employed as a hæmostatic, but it does not seem to possess any claims to preference in these cases.

Within the last few years gallic acid has taken a high place in the list of styptic medicines, and in this as in many other forms of hæmorrhage from the uterus, will be found a valuable auxiliary in the treatment. The tincture of Indian hemp, too, is sometimes of great service. In one case of

hæmorrhage ten days subsequently to parturition, I made trial of it, and with the most satisfactory results. Another very valuable remedy, of which mention has already been made in some of the clinical histories, is a blister to the sacrum. This I learned from Dr. Johnson, when his Assistant in the Lying-in hospital: its *modus operandi* is not very apparent, but of its utility I have witnessed many examples.

If the hæmorrhage is of an atonic or passive kind, approaching in character to menorrhagia lochialis, it will probably be found that medicines of the tonic and chalybeate class will prove most serviceable. A very admirable combination in these cases is a mixture composed of sulphate of iron, sulphate of quina, dilute sulphuric acid, and water; if required, a small quantity of Epsom salts may be added. In the following case I had recourse to this mixture with complete success, after having in vain tried other means to conquer the hæmorrhage.

Case 9.—*Passive hæmorrhage on tenth and following days: chalybeates.* On 14th September, 1848, I delivered Mrs. M. of her seventh child, after a short labor. The placenta came away in ten minutes, together with the membranes and some large clots. She recovered so satisfactorily, that I ceased attending on the 22nd. On the evening of the 24th I was requested to visit her again, and found her in a rather weak state, and much frightened, there having been a very free discharge of fluid blood from the vagina for some hours. It was plain from the marked effects of the hæmorrhage on her system, and the quantity of linen which was saturated with blood, that the loss must have been very considerable. Her pulse was quiet, and her bowels had been freed in the morning. I made an internal examination, but could discover nothing unusual, except that the mouth of the womb was rather patulous. I ordered cold wet napkins to be freely applied to the vulva, and half a drachm of powdered ergot to be given through the night, in three doses. This treatment produced some temporary abatement of the bleeding but did not seem to exercise a decided influence over it. Upon the 27th, finding the loss to be still going on, and the pulse to be perfectly quiet, I ordered the mixture above mentioned, to be

given three times a-day. This very promptly and completely arrested the sanguineous discharge.

Where, from the history of the case, there is ground for suspecting that the attack of flooding results from the retention of a portion of placenta, a very careful vaginal examination should at once be made to determine the question, if possible, and to ascertain whether the offending substance be accessible or not, as its speedy removal is most desirable. I would reiterate the precept already laid down, that in no case of secondary hæmorrhage should an internal examination be omitted. Rational signs are here insufficient to guide us to a correct diagnosis. Where the retained substance is within reach of the finger, and could be got away without violence, there can be no second opinion about the propriety of doing so. The vulsellum, delineated at fig. 14 (page 168), will materially aid us here. But to seize hold of the mass may not be a matter so easy of accomplishment, and the question then arises, how far is the practitioner justified in making attempts to withdraw it? This is a point on which it is impossible to lay down any precise or positive directions. Dr. Ingleby's advice is, perhaps, the very best that can be given:—"whilst rashness cannot be too much deprecated, we should not be justified in abstaining from a cautious attempt, should a favourable opportunity occur, and the mass be within reach of the fingers."

Baudelocque tells us he has seen hæmorrhage from this cause not show itself till the tenth day after delivery; and he adds, "When it is abundant, as it was in that case, it requires us to pass the hand into the uterus, to extract the foreign body from it." Further on he gives more judicious advice: "If we were certain of the existence of these portions of the placenta at the time of the deliverance, it would be better to extract them immediately than to wait till succeeding accidents oblige us to it; but if we are not called till some time afterwards, there must be very great accidents to determine us to take the same method." The use of a small crotchet has been recommended by Dr. Dewees for hooking away the foreign body out of the uterine cavity; but I would

strongly deprecate the introduction of any instrument for this purpose *into the interior* of the womb: I feel convinced of the impropriety of such attempts.

If the safe removal of the retained bit of placenta be impracticable, we must only employ such palliative measures as shall tend to keep the discharge in check. Strict rest in the recumbent position, quietness, cold applications, cold enemata, blistering over the sacrum, plugging the vagina, and the administration of ergot, may be severally or conjointly required, according to the circumstances of the case. Dewees thinks very favourably of the ergot in this kind of hæmorrhage; and as a subsidiary means for restraining the discharge, there is no doubt of its occasional value and general admissibility.

It has before been stated, that I have never yet met with a case of secondary hæmorrhage dependent on *ulceration of the mouth* of the womb. The treatment of this form of secondary hæmorrhage would not materially differ from that which is applicable to ulceration of the os uteri under ordinary circumstances. The ulcer should be touched with the solid nitrate of silver, a blister applied over the sacrum, and an astringent injection used twice a-day. If the ulcer be associated with any inflammation of the neck or body of the organ, the bichloride of mercury in minute doses would be a very suitable medicine to give.

The treatment of polypus, and of inversion of the uterus, when either of these is a cause of hæmorrhage within the puerperal month, need not be discussed here, as it is considered in the respective memoirs upon these subjects.

The reader can hardly fail to have remarked, that in some of the cases related in this memoir there had been more or less hæmorrhage in the third stage of labor, or following the placenta. Either the weakness induced by this last hæmorrhage predisposes to the other, or a continuance of the uterine inertia which caused the primary hæmorrhage, leads to the secondary attack under the influence of any trivial exciting cause. Whichever explanation we may adopt, the practical inference is still the same, namely, that, with a view to the

prevention of secondary hæmorrhage (to say nothing of other reasons), patients who have had flooding before, or soon after the expulsion of the placenta, should observe the horizontal posture and strict quietness for a longer period than ordinary. For the same reason, patients in whom the involution of the uterus goes on slowly, should be subjected to like restraints.

The presence of a uterine hæmatocele could not easily be diagnosed during life, and no doubt there are difficulties in the way of its recognition; but these are by no means of an insuperable kind. I would say that the blood being of a florid color should excite suspicion, and careful digital or specular examination might lead to the discovery of the tumour in the os or cervix uteri; and, perhaps, to the detection of the laceration. The special treatment in such a case as this would be careful plugging of the vagina. In the first instance it might be well to pass into the os a wad of cotton or lint soaked with some powerful styptic, such as the solution of perchloride of iron, the compound tincture of benzoin, or a saturated solution of alum. This done, the stuffing of the vagina may be proceeded with. I cannot see why such a cause of secondary hæmorrhage should necessarily prove fatal.

The employment of diffusible stimuli will occasionally be required in severe cases of secondary flooding, where the depression of the vital powers is very great. More caution, however, is needed in resorting to them in this class of cases than in the floodings immediately following labor. In extreme cases there is no better stimulant than burnt brandy, or burnt whiskey; and enemata of wine, or of brandy (or whiskey), and cold beef tea, are valuable adjuvants under circumstances of great collapse or prostration.

THE SEMEIOLOGICAL VALUE OF THE PULSE IN CHILDBED.*

THIS memoir does not by any means pretend to treat of all the changes and modifications which the pulse undergoes in the physiological and pathological states of childbed. Its object is merely to point out some cases which form exceptions to the general rules bearing on the interpretation of the pulse of puerperal patients.

These general rules, briefly stated, are:

1st. That where the frequency of the circulation does not exceed 80 in the minute, the patient may be considered as going on favourably: and,

2nd. That a pulse at 100, or upwards, indicates the presence of danger, or at all events of some puerperal disease.

There is a very general disposition among puerperal patients, especially those in hospital, to underrate the importance of their symptoms, and to conceal from the practitioner those phenomena of disease which are of a subjective kind. Hence it is of great moment to possess some exponent of the

* The greater part of this memoir appeared in the *Dublin Quarterly Medical Journal* for May, 1861. The strong testimony that Professor Levy, of Copenhagen, has borne to the accuracy of my observations, as well as to the importance of the subject generally, induces me to re-publish the paper here. I have not scrupled to borrow largely from the Danish Professor's excellent monograph, which has been translated from the *Bibliothek for Læger* for April, 1862, by Dr. W. Dan. Moore, and published in the *Dublin Quarterly Medical Journal* for November, 1862.

patient's state, that will be beyond her control;—some "purely objective symptom independent of all arbitrary representation." Such a symptom we have in the pulse when properly observed and duly estimated.

The careful observation of the condition of the pulse is a duty of primary importance in the case of the childbed woman, and never should be omitted. Indeed I hesitate not to affirm that of all the symptoms taken singly, belonging to the puerpera, the pulse is the most valuable and the most reliable. Nevertheless, even the pulse may deceive the practitioner; and in the present memoir my object is to point out a few of the occasions where extreme circumspection is necessary before forming an opinion from this symptom.

Of the different characters of the pulse such as *rhythm*, *force, fulness*, and *frequency*, I have been accustomed to attach most importance to this last, viz. its rate of frequency. The other three, however, will never be lost sight of by the prudent practitioner, as force or strength of the pulse will often decide serious questions of treatment. Frequency alone will sometimes do the same thing: for a pulse above 120 or 130, no matter what its other characters may be, generally suggests extreme reserve in the employment of depletory measures,—as much so, indeed, as a weaker pulse at 100 or 110. The late Dr. Todd has given the opinion—and all practical physicians will concur in it—that there is no one symptom so important as the pulse. But in his estimation, it is not so much the frequency, as the volume, the quality of the pulse, which bears a ratio to the vital powers of the patient. From the context it would seem as though he intended this observation to apply to cases of fever only; and if so, I believe his proposition will be generally admitted.

To ascertain the frequency and rhythm of the pulse is a simple matter, and can always be absolutely determined; but to form a correct opinion of the qualities comprehended under the term "force" or "strength," which includes volume, compressibility, &c., requires great experience, and a very delicate tact.

The rules ordinarily laid down for taking the pulse—such as not doing so till the excitement caused by our first saluting the patient has subsided, and not reckoning the pulse for a shorter period than a quarter of a minute—apply with even more cogency in the case of the puerperal patient.

In a large proportion of the cases of normal convalescence from parturition, the pulse scarcely deviates at all from the standard of health. With the reaction succeeding to the shock of parturition, and with the coming of the milk, there may be a rise of a few beats; but even these temporary accelerations are more frequently absent than present. I continually meet with cases where the pulse does not exceed 72 all through childbed; and many other cases I have met with where it was as low as 60, 54, 48, and even 44. This morbid slowness in some of these cases was constitutional, I believe, and did not depend on any condition peculiar to childbed.* The late Dr. Montgomery met with some cases of this kind; and my observation entirely agrees with his, that these women recover well. "I have frequently observed," he writes "in women apparently in perfect health, that the day after labor the pulse was reduced from the ordinary rate of rapidity to 40, or between that and 50 beats in the minute; without any accompanying unfavourable symptoms of any kind; and from which state of retardation it gradually rose from day to day until it had regained the ordinary rate of pulsation." (*Dub. Hospital Gazette*, 15th January, 1857). He relates three examples of this anomaly, and in each of them the pulse regained the natural frequency after the lapse of some days. In one of these patients the same phenomenon occurred after seven labors. M. Hippolyte Blot in a letter to the *L'Union Medicale* of 4th October, 1862,

* The most remarkable example I have seen of depression of the pulse after delivery was in a patient confined of triplets. She was a thin delicate woman, and had come to the full time; the pains were energetic, and her labor most rapid; such was the degree of collapse succeeding to it, that the pulse fell to 30, and continued in this depressed state for some time, and I scarcely thought she would have survived: she recovered, however, and bore children subsequently. This woman had not naturally a slow pulse.

states in reference to my former paper (a translation of which had appeared in that journal) that he has prepared a work on this "Slowness of the Pulse in the Puerperal State," and that he believes it to be evidently dependent on the state of childbed, and to be more common than is generally supposed.

If the patient's pulse be 80 or 84, she is considered to be going on favourably; and, as a general rule, this inference is correct. Let me point out, however, some cases where this reasoning would be fallacious, and where, though the pulse is quiet, considerable danger may be present, or, at all events, the patient's position may not be at all so satisfactory as the rate of the pulse would seem to indicate.

I. It has been thought by Beck, Collins, Hardy, and other observers, that where ergot has been given to the extent of two or three drachms, it may be followed by a depression in the rate of the pulse, lasting for two or three days. This might mislead us as to the true condition of the patient. The diminution so produced, however, is observable in rare instances only, and seldom, I believe, amounts to more than ten or twelve beats in the minute; but this much would make all the difference between a normal and abnormal rate of frequency—that is to say, a pulse which but for the ergot would have been 96, may under its influence be only 84 in the minute. I need do no more than barely allude to the possibility of the circulation being also lowered by the action of medicine administered to the patient; opium in large doses, or digitalis, are those most likely to have this effect. Of the *veratrum viride*, so highly extolled for its sedative effect by American writers, I have no experience.

II. I have frequently had occasion to observe—and no doubt so have many other obstetricians,—that in the commencement of metritis, there is oftentimes a definite period during which the vascular system shows no obvious sympathy with the local disease—the pulse not ranging above the ordinary standard. This tranquillity of the circulation does not last long; a few hours will probably find the patient in a state of general

vascular excitement, with a hot skin, and a pulse at 96 or 100.

Here the local symptoms of inflammation are apparent for some hours before the pulse gives any unequivocal indications of the mischief that is going on, and hence the importance, I may incidentally remark, of always examining the condition of the uterus, as well as the pulse in the puerperal patient. With regard to the order of sequence of rigor, local pain or tenderness, and vascular disturbance, in cases of uterine or peritoneal inflammation, considerable differences are observable. The rigor may be altogether wanting, and, as a general rule, the cases where it is so are the least formidable ones; or, the rigor may precede the other two symptoms, or it may follow them; or, again, disturbance of the circulation may take the initiative, and in the course of some hours, local symptoms of inflammation make their appearance.

From paying too exclusive attention to the pulse, and under-estimating local symptoms, the attendant might be led into a culpable inactivity of treatment, and thus allow the disease to gain considerably a-head of him before employing sufficiently energetic remedial measures. This error I myself more than once committed at the outset of practice.

In such cases as I have just been describing, although the rate of the pulse may not point out the presence of any lesion, yet the educated finger will seldom fail to observe a sharpness or quickness in its beats which is not the accompaniment of a healthy pulse.

Uterine tenderness may, no doubt, be due to other causes besides inflammation; but where the practitioner has any misgiving on this point, he should see the patient at short intervals, and thus by vigilantly watching the course of events, adapt his treatment to the nature and exigency of the case.

III. After acute attacks of metro-peritonitis, the patient's sensations and the pulse may indicate that all is going an favorably, when a considerable swelling—cellulitis—may exist in the pelvis, ready to take on acute inflammatory action, should the patient get up or use any bodily exertion. Here the pulse

fails to apprise the practitioner of the lurking mischief, and it is only by careful examination of the iliac regions that he will avoid giving a wrong prognosis and allowing the patient to get up at a time when the strictest bodily quietude should be enjoined. This latent form of secondary pelvic cellulitis is not uncommon: I have many times seen it, and have noted a distinct interval between the subsidence of the symptoms depending on the primary disease, and the development of symptoms belonging to the cellulitis. During this interim an unwary or over-sanguine attendant may be completely deceived by the pulse, and be led to pronounce the patient quite convalescent, when, in fact, her recovery is still weeks or months distant. Subsidence of the pulse is generally a very encouraging symptom in patients affected with puerperal fever in any form. But caution and circumspection must be exercised before grounding a prognosis on this symptom.

IV. A rigor may come on at any period in the course of an attack of puerperal fever (though it more commonly is one of the initiatory symptoms); and it not unfrequently happens that for some time,—I cannot say for how long exactly, but I think only an hour or two—previously to the fit of shivering, there is a marked diminution in the rapidity of the circulation, leading the attendant, if he should happen to see the patient at this period, to believe that the disease is yielding, when in truth it is gaining strength, and, it may be, getting beyond the reach of art. This pleasing delusion is soon dispelled, to the intense disappointment of friends, and the great mortification of the physician, who has to recal the sanguine opinion so recently expressed, and to substitute one of grave foreboding. A knowledge of the fact just stated, obviously suggests the necessity of caution in drawing a prognosis from the character of the pulse at one visit. This is strictly in accordance with a maxim well known to practical accoucheurs in regard to puerperal fever, namely, not to regard any amendment in the patient's condition as real and genuine, unless it continue for twenty-four hours. The reason for this precept is, that a remission in the symptoms is apt to occur in the course of this disease, and may

deceive even the most experienced practitioner, if he judges from the present condition of the patient, and without waiting for the test of time.

But even without the occurrence of any rigor I have occasionally, in very severe and extensive puerperal peritonitis, seen the pulse undergo a remarkable diminution of frequency, falling from 120 to 100, or even to 90; and this too when the disease was hastening on with rapid strides to a fatal termination. Dr. Levy has made a similar observation, and says that it was after a copious effusion that this treacherous subsidence of the pulse took place.

V. As the pulse may be lowered by an approaching rigor, so it may be reduced in frequency by the presence of nausea. This may be accidentally induced by medicine, or be a symptom of the puerperal disease; in either case the nausea may depress the pulse, and should therefore be taken into account, when estimating its semeiological importance.

VI. In the progress of cases of pyæmia, rapidity of pulse is a constant, indeed, almost an unfailing, attendant; yet even in those running on to a fatal issue, I have sometimes seen the pulse temporarily fall so low as 70 or 80,—not on the approach of a rigor, but after the sweating stage succeeding to rigor, and apparently the effect of extreme exhaustion. This may be observed towards the closing stage of pyæmia, when all the other symptoms wear the most threatening aspect. "Even when the pyæmic process," observes Prof. Levy, "is distinctly localized in one or other organ, as in the cavity of a joint, or in the pleural sac, periodical remissions may sometimes (and even repeatedly) manifest themselves with a slowness of the pulse, which for a time reassures the less experienced, until a fresh deposition of pus, either in the same or in another organ, again produces the former frequency, and thereby dispels the illusion."

Having thus mentioned some of the qualifications with which we are to receive the maxim that "*a pulse at the normal rate is evidence of a safe or favourable condition of the patient*," let me now take the converse side of the proposition, and point out some of the exceptions to the rule that

"*rapidity of the circulation indicates the presence of puerperal disease.*" And I may here observe, that a slow pulse more surely evidences a healthy state of things, than does a rapid pulse the reverse; in other words, the association of a slow pulse with puerperal disease is more rare than that of a rapid pulse with health, so numerous are the causes which tend to disturb the circulation at this time.

This division of the subject is much more extensive than the one I have just been engaged in considering, and the following remarks are to be regarded merely as a small contribution towards its elucidation. A stricter criticism is necessary in estimating the signification of the frequent pulse than of the slow pulse, as the causes of the former are so much more numerous than of the latter. We may meet with elevation of the pulse in women perfectly healthy, and in those who are suffering under some latent affection wholly unconnected with the uterus or the state of childbed.

Although the physiological state of the circulation during childbed is not one of excitement, nevertheless it is an eminently *excitable state.* That extraordinary susceptibility of the nervous system, which constitutes so prominent a feature of pregnancy, reaches its culminating point during this period, and both furnishes a satisfactory explanation of many of the accelerated changes of the pulse, and teaches an important lesson in the hygienic and moral management of this class of patients.

We shall find it convenient to classify the cases of which I am about to speak under three heads, according as the pulse is *momentarily*, *temporarily*, or *permanently* quickened, a classification not only useful for purposes of arrangement, but of the highest practical value; and one which has been approved of and adopted by Prof. Levy in the monograph, from which I have already quoted.

The causes which are capable of producing a *momentary* or very transient excitement of the pulse in the puerperal patient are literally innumerable—a much more trivial thing acting as an excitant now, than would be sufficient at any other time. Any slight mental emotion or bodily disturbance

will have this effect. Some altercation with the nurse, some muscular effort, or the entrance of the doctor into the room, are among the most common causes. Scarcely a day passed that I had not occasion to observe this momentary quickness of pulse produced among my hospital patients, by the simple circumstance of their requesting some indulgence or asking for a pass to admit a visitor.

In many newly-confined women the act of nursing, even though unattended with any pain, and performed in a perfectly easy recumbent posture, is accompanied by a rise of ten or twelve beats in the pulse. This I have repeatedly noticed. It may be safely affirmed that an acceleration of the pulse, which is only of the transitory kind, cannot be of any consequence; and we can generally ascertain, within the limits of an ordinary visit, whether the hurry of the circulation be of the kind we are now considering or not. This I would call the natural or physiological irritability of pulse; but we must remember that there is such a thing as a *morbid irritability* of the circulation where the rise in frequency is disproportionate to the intensity of the exciting cause. Here extreme vigilance and circumspection are necessary; for this condition of the pulse is apt to presage some form of puerperal disease.

The quickness of pulse, however, does not always subside so rapidly, but may continue for some hours. These cases are of more importance, and very justly occasion more uneasiness in the mind of the medical attendant. All such cases I would group together under the head of *temporary* acceleration of the pulse. Although this distinction may appear somewhat refined, yet it is not purely arbitrary; and there is this much also to be said in its favour, that the causes which operate in temporarily disturbing the circulation, are generally of a different kind from those in the class of cases last considered. Foremost among the causes which may produce a temporary acceleration of the pulse, are loss of rest, and the improper use of stimulating ingesta.

Nothing tends so powerfully as sleep to restore the equilibrium of the nervous and circulating systems after labor;

and where a patient does not get her needful repose, the ill effects of this deprivation are exhibited in the quickened state of the pulse, the headache, and general nervous irritation.

Where the loss of rest is produced by any cause external to the patient,—such as a cross child, a snoring or coughing nurse, noise in the house, &c.—this should be removed, so far as is possible; but if its removal be impossible, a very good plan is to lessen the patient's acoustic sensibility by putting wadding in her ears—a plan I have adopted with great advantage on many occasions. If the sleeplessness depends on the patient herself, we must only try and overcome it by a narcotic of some description.

A continuance of sleeplessness, with the arterial and nervous excitement consequent thereon, may be productive of serious ill effects, mental or bodily, to the woman.

That the premature or too liberal employment of diffusible stimuli, in the shape of wine, brandy, or malt liquors, will occasion an over-excited state of the circulating system, is known to every one. If the physician have ordered any of these, he can very easily ascertain whether, or how far, the quickness of pulse is due to their influence. But when he is only cognizant of their effects, and in total ignorance of their administration, then indeed there is excuse for his perplexity and alarm. Cases of this kind occur now-and-again from the clandestine use of the liquors in question; the patient, or patient and nurse, being to blame in the matter. Now, I cannot lay down any single rule whereby to diagnose this particular cause for excitement of the pulse. Of course, the practitioner would examine the patient with the strictest scrutiny, to see if disease be lurking in any part of the system. A negative result of this examination, together with the flushed countenance, the slightly excited manner, perhaps the odour of the breath, and, lastly, the time of the day when these symptoms are present, may lead to detection or awaken suspicion. I remember attending a lady some years ago where this deception was very successfully practised upon me; and, no doubt, my daily anxious inquiries, and minute investigations to discover the hidden cause of the

excited circulation, afforded no little amusement to the patient and nurse, who, in this case, were in league together. It was not for months afterwards that I found out the true cause of the symptom which had so alarmed and perplexed me. Acting under the advice of the nurse, this lady was in the habit of taking three or four glasses of port wine daily, in addition to some claret.

The nurse, however, is not always an accomplice in the imposition, and discovery in such cases is more easy.

We must not forget there are slight febrile attacks of the kind, commonly called "weed," which commence with a chill, and are frequently connected with some mammary irritation. These are attended with excitement of the circulation, which subsides in the course of twenty-four or thirty-six hours.

I quite agree with Levy, that a temporary frequency of the pulse, commonly accompanied by increased cutaneous perspiration, is often the result of the patient's room being at too high a temperature, whether by fires or by the action of the sun's rays. He states that in the Lying-in Institution over which he presides at Copenhagen, the pulse is found elevated in the majority of the patients on unusually hot summer days; and that this effect of heat not unfrequently manifests itself in connexion with a perceptible tendency to uterine hæmorrhage.

We come now to the third division of this subject, comprehending those cases in which the morbid frequency of the pulse is, by comparison, *permanent*, that is, it remains constant at, or above, 100 for some days, at the least.

Although a continuing excitement of the pulse within the ten or twelve hours succeeding to delivery is always a symptom that calls for extreme vigilance on the part of the attendant, yet it does not in every instance necessarily indicate the presence of any organic disease, or of danger to the patient. In conformity with the plan of this paper, I shall endeavour to sketch very briefly some of the cases in which this abnormal frequency of pulse presents itself *independently of any existing puerperal disease.*

When we meet with this excited state of the circulation,

it is, no doubt, most satisfactory to find, upon a full and patient investigation, that it is a solitary symptom unassociated with any other of a morbid kind; this, I say, relieves our mind of a great deal of apprehension. But then we naturally seek some cause for this vascular disturbance, and, till this be discovered, we are only half informed upon the case; and cannot with confidence assert that this symptom is not connected with organic lesion, nor can we venture to prescribe with any well-assured expectation of success.

It will tend very much to simplicity and precision if, as Levy has done, we distribute all the cases belonging to this great division into two groups or catagories, the *first* including those cases in which the increased frequency of pulse is solely the result of functional disturbance, there being no appreciable disease in any part of the system; whilst to the *second* group are referred all cases where the rapidity of the circulation depends on some morbid non-puerperal cause, which can only be discovered by special investigation.

To the *first* catagory may be referred:—

a. Those rare cases in which the normal rate of the pulse is above the ordinary standard, and ranges from 90 to 110.

b. The intemperate use of spirits, or even of tea, for any length of time before labor would seem to be capable of causing an increased rate of the circulation. At least, I have now observed this connexion in many instances where nothing else could be assigned for the production of the symptom in question. These patients have generally been workwomen, accustomed to late hours, and with whom tea—often very strong tea—was an accompaniment of every meal, and constituted the staple article of their food.

I remember attending a lady (who was also seen by Dr. Hugh Carmichael), some sixteen or seventeen years ago, who was an exquisite example of this derangement. From day to day, after delivery, I was greatly alarmed to find her pulse ranging from 116 to 130. At length, one day, observing my grave aspect and guarded prognosis, she burst out a laughing. "Doctor," she said, "you are frightened at my pulse being so fast; but you needn't, for I can tell you the

cause for it." Thereupon she acquainted me, that all through her pregnancy she indulged to an unlimited extent a craving for raw tea, a quantity of which she always carried about with her and used to eat dry.

As I saw none of these patients prior to the setting in of labor, I cannot say what the pulse was then, but should suppose it was somewhat above the natural standard.

c. Immoderate *hæmorrhage* during or after labor, as on any other occasion, may be followed by an excitement or irritability of the pulse, persisting for many days. This answers to Marshall Hall's description of "hæmorrhage with excessive reaction." I rather think the puerperal condition to be peculiarly favourable to the production of this sequela of hæmorrhage.

Of the puerperal patients who have had hæmorrhage, all will not subsequently have a rapid pulse. It is much more likely to supervene in some women than in others; and I have observed that women of a pale cachectic look, who lead sedentary lives, using little exercise, and rarely going into the open air, are peculiarly liable to this effect of hæmorrhage, owing, no doubt, to the greater irritability of habit, which this mode of life induces, and also to the deficiency of blood which is usually observed in these patients.

Strict scrutiny is needed before pronouncing, in any given case, that the frequency of the pulse is solely due to the hæmorrhage; for flooding, as Denman has remarked, is a strong predisposing cause of puerperal fever, oftentimes of a low and very insidious form.

d. Where the *act of nursing* is productive of much suffering, whether from soreness or morbid sensibility of the nipples, the pulse will be considerably quickened by it; and if the child be frequently applied to the breast (under the mistaken notion of preventing mammary inflammation), time will not be given to allow the pulse to subside between one act of suckling and the next.

e. The extraordinary influence exerted by the *state of the mind* over the organic functions of the childbed woman is one of the most striking and important features of the

puerperal condition. The circulation participates largely in this influence; and, accordingly, it is not at all uncommon to find a quickened pulse in patients who are suffering under mental dejection, anxiety, or suspense, particularly if of recent origin. This is so well known, that it would be needless to enlarge upon it. Amongst patients at the Lying-in hospital, a seemingly causeless quickness of pulse often suggested an inquiry into their social state or domestic circumstances, when we discovered, for the first time, some hidden grief or corroding care, which was the perpetual source of irritation. Prof. Levy has made some very just remarks upon this point, which I cannot forbear quoting here, in the words of the translator. "In private practice, where the physician is occupied solely with married women, and, moreover, chiefly in the better circumstanced classes of the population, influences of this kind are certainly rare, and I can therefore very well understand the incredulity of many physicians with reference to the importance of the psychical elements in the puerperal condition in general. But the case is different in lying-in hospitals; and, particularly, in large institutions where, as in ours, the mass of the patients are unhappy single women, or married women of the most depressed and needy class. Here, mental sufferings have their special home; here they claim the physician's constant attention; for here they play so important a part, that they may justly be considered as one of the elements most hostile to the state of health. How they act it is certainly not possible always to demonstrate; their direct influence upon the nervous system will be denied by none, who is at all intimate with the etiology of convulsions, spastic labor-pains, or mental disturbances in childbed; but that they may also indirectly undermine the natural state of the blood, and so predispose or directly lead to the development of puerperal fever has, at least in my opinion, so much empirical probability in its favour, that I have no doubt on the point. But apart from this, it is at least indubitable, that an abnormally increased frequency of pulse in childbed is often due exclusively to a more or less latent mental affection. So long as no other morbid symptoms

manifest themselves, there is, indeed, reason for some uneasiness and for much attention to the patient; although often convalescence proceeds without much interruption, nevertheless, our uncertainty as to the patient's state will lead us to require a longer confinement than usual." To the truthfulness and accuracy of these observations, I can bear the fullest testimony; and, but that it would be irrelevant to the subject in hand, I could adduce many striking proofs of the extraordinary influence of psychical disturbance in producing puerperal diseases.

f. An excited state of the pulse often precedes, for some days, an attack of *puerperal mania;* which is not at all surprising, inasmuch as mania itself is often brought about by mental inquietude or anxiety of one kind or another. If to quickness of the pulse there be added sleeplessness, loss of appetite, and indifference to the child, we then have a combination of symptoms quite sufficient to justify the apprehension of a maniacal outbreak, and the adoption of such precautionary measures as prudence would dictate under these circumstances.

g. In women of a highly nervous or hysterical temperament, we sometimes find that after a few days' confinement to bed, the circulation becomes quickened; and this abnormal state will continue or increase as long as the patient be kept in bed. I have been in the habit of regarding, and speaking of this, as a "nervous or hysterical excitement of the pulse." Although it is generally to be removed by a change of position and of room, still considerable caution is necessary in making these changes.

I think these are the cases brought forward by Levy as examples of frequent pulse caused by the horizontal position. However, I am far from denying that idiosyncrasies are to be met with, in which the ordinary effects of the horizontal and erect postures upon the rate of the circulation are reversed.

h. There is yet another variety of the permanently frequent pulse, which may, perhaps, be placed with more propriety in the present than in the second group of cases. Dr. Levy

styles it the *epidemic* quickness of pulse, as he thinks, and for sound reasons I believe, that it depends on some epidemic influence. I must give his own description of it, merely premising, that the results of my hospital experience entirely agree with his in this matter; and I, therefore, submit his statements with the fullest conviction of their correctness. They will, no doubt, recall to mind the observation made very many years ago by Dr. Joseph Clarke, and abundantly confirmed by other physicians, that before the actual outbreak of an epidemic puerperal fever, lying-in patients are observed to recover slowly; "or, to use the language of the nurses, it was much more difficult to get them out of bed than usual."*

"I have still to mention," writes Levy, "a peculiar variety of quick pulse in puerperal women which, for many years, I have at various times observed, and to which I have called the attention of others. For it I know no more suitable denomination than *the epidemic*, inasmuch as I am convinced that it depends upon an epidemic influence. Thus, daily reckoning the pulse of all the patients in the lying-in institution, it could not escape observation, that at certain times a quiet, and at other times a frequent, and even very frequent, pulse was the prevailing or predominant phenomenon; and continued observations have shown, that the prevailingly accelerated pulse always foreboded, or occurred simultaneously with, a periodically diffused unhealthiness among the puerperal women. In saying this, I am far from wishing to convey that the quick pulse in all or the majority of the patients led to puerperal fever; on the contrary, it was only in some great epidemics that the disease attacked the majority of the patients, while, in general, it visited only a minority of them; and the majority were looked on with suspicion solely on account of the quickness of pulse. In the latter, the pulse gradually subsided during the last days of convalescence, without any other morbid phenomena; but often the disturbances in the secretion of milk, in the lochial

* See Dr. Clarke's paper in Duncan's Medical Commentaries for the year 1790.

discharge, in the action of the skin; or else, loss of appetite and a generally slow convalescence gave to the confinement a peculiar aspect, which evidently deviated so much from the normal state of things that it must be regarded as dependent on the contemporaneously prevailing puerperal constitution."

From these facts, Dr. Levy has deduced some evidence bearing on the pathological nature of puerperal fever. As his remarks on this point are, so far as I am aware, quite original; and embody a new fact entitled to some weight in the decision of this much vexed question, I shall convey his opinions in the language of his accomplished translator, Dr. W. Daniel Moore. "This observation, respecting a frequency of the pulse in puerperal women dependent, at times, only on epidemic influence, which I much desire to see tested in various quarters, though this can be done only in lying-in institutions, and in the course of a long series of years, is, in my mind, of no small pathological interest. For, as an epidemic influence in this direction can be considered only as prevailing through a peculiar change in the blood, which, therefore, at times becomes common to all puerperal women, but only in a greater or smaller number of these attains to the height necessary for an outbreak of puerperal fever, it seems to me, that in this very point lies an exceedingly important argument for the decision of the much disputed question respecting the essential or primary nature of this disease, as well as for the justification of the pathological distinction between it and the local puerperal inflammations, which physicians in general are only too much inclined to overlook or deny. In a practical point of view, I have utilized my observation so far, that I have allowed a generally diffused quickness of pulse among the lying-in women in the institution, coinciding with the occurrence of some such cases, to act as a warning of an unfavorable puerperal constitution, and as a hint at the time to limit the admissions as much as possible, for which the arrangement for scattered attendance through the town, of late years, affords facility. After some days, or a week or two, I have often found the state of things improved, and have then, by way of experiment, again

permitted the unlimited admission of fresh patients, intending, according to circumstances, to allow it to continue or again to put the limitation in force. And I am, at least, convinced, that in the course of years I have, in this mode, not unfrequently succeeded in preventing or arresting the further development of commencing epidemics in the institution."

We may now pass on to the second category of cases, those, namely, in which the undue excitement of the circulation proceeds from some *non-puerperal disease* complicating childbed. It is quite needless that I should enumerate all the diseases which might be present at this time, and give rise to acceleration of the pulse. I shall merely mention some of them, selecting those that are of a less obvious kind, and, therefore, more likely to be overlooked and to cause perplexity or embarrassment to the practitioner.

a. A very rapid pulse is on some occasions the first symptom, and for hours the only symptom, of the invasion of *scarlatina*—a disease most fatal to recently confined women.

In the winter of 1855-6, scarlatina was very prevalent in this city, and a number of the patients in the Lying-in hospital had the disease after delivery. In several of them there was a very great and, for the time, an apparently unaccountable acceleration of the pulse for twelve, eighteen, or twenty-four hours before the occurrence of the eruption or of the soreness of the throat.

Dr. Churchill has recorded two very striking instances—one of them ending fatally—of extreme rapidity of pulse coming on within forty-eight hours after parturition, and apparently referable to latent scarlatina, certainly not to any puerperal disease, properly so called.

b. Patients labouring under *organic disease of the heart* form another group of cases where undue frequency of the pulse is occasionally observed after labor. I say "occasionally," for not every patient so affected shows this morbidly increased velocity of the circulation; nevertheless, I have now seen a good many instances of it.

When there exists valvular disease,—and nearly all these patients had signs of valvular disease, in some of its forms,—

we can, I think, have little difficulty in understanding how any considerable change in the circulation must affect the action of the heart in consequence of its powers of adjustment or accommodation being so materially impaired. That the act of parturition makes a great change in the distribution of the blood, and general condition of the circulation, is self-evident; and hence, I suppose, the great and undue excitement of the diseased organ. The incapability of the heart to make the required adaptation has proved a cause of death on some rare occasions.

c. A pregnant patient may be affected with *pulmonary consumption*, of which the symptoms have been neither numerous nor prominent. But owing to the strain which parturition makes upon the physical powers, and especially on the organs of respiration and circulation, the hitherto latent disease now produces considerable constitutional disturbance, the most remarkable feature of which is increased rapidity of the pulse. The other symptoms of phthisis may at the same time, be obscure or ill-developed, so that without a physical examination of the lungs, the cause of the hurried circulation would probably remain undiscovered.

d. An unusually frequent pulse may be a symptom of that peculiar condition of the kidney, known by the name of *Bright's disease.* This particular symptom is on some rare occasions very conspicuous after delivery, when the other, and more obvious symptoms of the complaint are wanting, or but ill-marked.

e. Lastly, Professor Levy speaks of a *chloremic* quickness of pulse connected, as this epithet implies, with a chlorotic state of the system. I cannot recollect ever seeing a well marked example of this cause of quickness of pulse in the puerperal state: I have included it, however, on the authority of Dr. Levy.

I shall now bring these cursory remarks to a close. I am very well aware that the subject to which they relate is far from being exhausted, as I have only brought forward those cases which are of more common occurrence; whilst I have

purposely omitted any account of the variations of the pulse induced by puerperal disease.

I will be excused for again urging the necessity of carefully noting the state of the pulse at *every visit* to the puerperal patient. The importance of its indications can hardly be over estimated; and where it ranges above the healthy standard, this circumstance should be regarded as *primâ facie* evidence that all is not right, and should lead us to institute a more minute investigation. Even where no puerperal disease can be discovered to account for the symptom, a guarded prognosis should still be given, and a cautious, expectant line of treatment should be adopted.

DROPSY OF THE OVUM.

The quantity of fluid contained within the sac of the amnion progressively increases as gestation advances. It is estimated to be, at the full time, between one and two pints: but in strictly natural pregnancies, I believe it seldom exceeds six or eight ounces, whilst sometimes it is not more than two or three. In this clinical record no case has been included in which the quantity of liquor amnii appeared to be under two quarts.

It must be confessed we know very little of the pathology of this complaint, or of the special conditions which give rise to it. In very many of the cases which have fallen under my observation, I have instituted careful examination on these heads; yet, in but few examples was there any notable appearance of disease of the amniotic membrane. In these exceptional cases the amnios was partially opaque and thickened, but nothing more. That the disease does not depend on a dropsical diathesis of the woman herself is shown by the fact, that these women are often free from dropsical effusions in any other part of the system; and also that very many patients are affected with general dropsy at the time of delivery, in whom, nevertheless, there is no marked redundancy of the amniotic fluid. The former of these statements was strikingly illustrated in the following case.

Case 1.—A lady, aged 33, in her tenth pregnancy, enjoyed

very good health up to the beginning of the seventh month of utero-gestation. She then began to observe that the size of the abdomen was augmenting in an unusually rapid manner. This went on for about a fortnight, when the belly had attained so enormous a magnitude as to be productive of extreme pain and distress. At this stage it was that I first saw her. She was a tall spare woman, and entirely free from anasarca. The abdomen was immensely swelled, tense, and obscurely fluctuating. She was uneasy in every attitude or position, but most so when lying down or recumbent; though she did not complain of dyspnœa. The pain of the abdomen had deprived her of all rest for the three previous nights. The urine was scanty and turbid; the tongue clean.

I prescribed for her some diuretic mixture, and an anodyne draught. The next day I found her no better. She had passed a most wretched sleepless night, propped up in an arm chair. On making an internal examination, the edges of the os-uteri were ascertained to be very thin, and the orifice expanded to the size of a halfpenny; the membranes protruding and extremely tense: no presentation of the fœtus distinguishable. The membranes were easily torn with the nail, whereupon a volume of water instantly gushed out, and, almost at the same time, the head of the fœtus; its birth was retarded as much as possible; but the temporary obstruction caused by the child, being removed, the torrent began afresh, filling every available vessel, and deluging the bed and floor, within the brief space of a minute or two. The child was a female, and its funis pulsating; but it made only a few feeble efforts at respiration. The uterus contracted tolerably well, throwing off the placenta in twenty-five minutes, without hæmorrhage. Her convalescence proceeded most satisfactorily, and the only deviation from the ordinary course of things was, that the uterus remained inordinately large for a considerable time.

This lady had premature confinements on two former occasions, under circumstances very similar to the present,

with this difference, that the quantity of water was not quite so great. These two children also were females.

Dr. W. D. Moore, of South Anne-street, was good enough to examine a specimen of the liquor amnii, four hours after delivery. Its specific gravity was 1004; it had a slight alkaline reaction, and contained a trace of albumen. The case above narrated shows that there is some liability to a return of the disease in a future pregnancy, although such an occurrence is far from common.

When *hydrops amnii* affects a woman pregnant of twins, we usually find that the amnios of one child only is engaged; indeed, it very seldom happens that both ova are dropsical. Curious to say, it is the amnios of the second born twin in which the liquor is redundant. Thus, of *eleven* twin cases in which the disease was present, it was confined to a single amnios in all of them; and in every instance, with two exceptions, it was the amnios of the second twin.

The dropsical effusion being confined to one ovum, is a fact that plainly implies its cause to be of a purely local kind. That the fœtus of the dropsical bag of membranes should be the last expelled, most probably is due to its greater mobility, and to the greater ease with which it can be displaced towards the fundus of the uterus, by its more circumscribed companion.

Case 2.—A large, florid-faced woman, aged 38, in her twelfth pregnancy, was admitted into the Lying-in hospital, Dec. 1854, with spurious pains. The abdomen was of immense size, indistinctly fluctuating; the legs were œdematous, and she suffered from cough and dyspnœa. The os uteri was patulous, but the membranes were not pressing into it; fœtal heart inaudible. She was in the ninth month, and had noticed that within the last fortnight, she had undergone a great augmentation of bulk.

The pains having gone off, she left the house; but returned again in a few days. She was confined, *en route* to the hospital, of a putrid child; and upon rupturing the membranes of the second twin, after her admission, about seven

quarts of water were discharged. This child appeared rather more decomposed then its fellow.

All her other children—ten in number—were born alive. On the present occasion the children were females, and the umbilical vessels of the first twin separated from one another at some distance from the placenta, and ran into the edge of the latter, widely apart, constituting the *insertio velamentosa* of the old authors.

Case 3.—A Scotch woman, aged 24, seven months advanced in her fourth pregnancy; former children born alive at term. When admitted she was not in labor, but the tongue was furred, the pulse frequent, and she complained much of pains in the loins; urine natural in quantity and appearance. The greatest circumference of the abdomen, which presented a well-marked fluctuation, was 43 inches. No œdema of the labia, legs, or feet. Up to three weeks previously her size had been natural for the period of pregnancy.

The history of this case, the absence of dropsical effusion elsewhere, the existence of pregnancy, and the shape of the belly, all concurred to point it out as one of hydrops amnii. But, on the other hand, there was some enlargement of superficial veins on the abdomen; and, on vaginal examination, it was ascertained that the cervix was not yet obliterated, and that the presenting fœtal head *was pressed so strongly against the lower part of uterus, as to be scarcely moveable.* This circumstance was the chief difficulty in the way of making the diagnosis of dropsy of the amnion. She took her labor in a few days afterwards, and quickly expelled a putrid female fœtus. The existence of a second was ascertained, and its membranes were ruptured, when between two and three gallons of liquor amnii came away. This child, a girl, presented with the feet, and was extracted alive, but in a weakly state, so that it only lived a few hours. This woman got a sharp attack of metritis on the second day, which was successfully treated by leeching, &c. and she went home quite well.

Here the impossibility of practising ballottement (or

repercussion, as it is sometimes called by English writers,) in the first instance, may be fully accounted for, I think, by the strong pressure that the dropsical ovum exerted upon the presenting fœtus contained in the other bag of membranes.

The great ease with which *ballottement* can be performed in dropsy of the ovum is generally laid down as one of its diagnostic marks. The case just related plainly teaches us, however, that, in certain cases of the disease, we are to expect the presenting part of the fœtus to be unusually fixed at the os uteri.

To make the diagnosis of twins, in the absence of any auscultatory evidence, is very rarely possible; but to do this, and, at the same time, to diagnose a dropsical condition of the second ovum would seem, *primâ facie*, to be quite beyond our reach; and I am not aware that such a diagnosis has ever been made in midwifery. However, from the data that I have just stated it would appear to be a legitimate deduction in a given case.

The disease under consideration shows itself more commonly in subsequent than in first pregnancies. Of *thirty-three* of my cases, where this point was specially noted, only *five* were first labors; *eight* were second labors; *one* a twelfth; and the rest intermediate. Occasionally it takes place very slowly and imperceptibly, but in by far the larger proportion of cases it was, comparatively speaking, rapid in its development; and the knowledge of this circumstance in the history of the complaint will oftentimes aid us in arriving at a diagnosis. Sometimes the disease was attended by symptoms of a rather acute kind, such as thirst, fever, diminished secretion of urine, and much abdominal pain and uneasiness. This last would seem referable more to the distension of the uterus than to any other cause.

Case 4.—A lady of very lymphatic temperament, aged 28, when in the latter end of her third pregnancy, came under my care, complaining of orthopnea, irritable stomach and bowels, thirst, sleeplessness, and a constant dull pain in the right hypochondrium. The uterine tumour was unusually large for the period of pregnancy (the end of eighth month)

but there was no œdema of the labia, legs, or feet. The pulse was generally small and frequent. I may remark that for many months her health had been very delicate. Treatment succeeded in relieving some of the more urgent symptoms, but the abdomen continued to enlarge, and with this increase the dyspnœa became more distressing, so that she spent all her time in a sitting posture.

A few days afterwards labor set in, and on my arrival at her bedside, finding the os uteri somewhat open, and the head or breech presenting (the mobility of the part prevented my ascertaining which), I broke the membranes, whereupon the breech descended, and there escaped about four quarts of liquor amnii. From the time of delivery the dyspnœa and abdominal pain entirely subsided, and for the first time for some weeks, she was able to enjoy the luxury of a refreshing natural sleep in the recumbent posture. She made a tolerably good recovery, though the frequency of the pulse for the first few days, caused me considerable uneasiness.

Case 5.—A woman, aged 29, in the seventh month of her sixth pregnancy, was admitted to one of the chronic wards of the Lying-in hospital, December, 1857. About six weeks before, she began to experience crampy pain in the belly, which was larger than usual for the period of gestation. Shortly afterwards there came on a sanguineous discharge from the vagina, which recurred again and again in variable quantity, and at times was quite watery or serous.

When the discharge was absent for some days, the abdomen enlarged and the uterus became hard and painful. These symptoms went away when the discharge recurred, which it often did in gushes. It was at first supposed that this might be a case of hydatids, or cystic disease of the ovum, but auscultation showed this to be highly improbable, if not impossible, as the fœtal heart was distinct and loud, and hydatids are almost never found co-existing with a live fœtus. The placental souffle was also plainly audible on the right side of the uterus, extending up to near the fundus. The os uteri was thick, and abraded on its anterior lip. Pulse 110, and irritable. Cold enemata, astringent injections into

vagina, and mild cauterization of the os uteri, were employed, but without any effect whatsoever on the discharges, which were at times very profuse, and consisted of a reddish water. Some days, subsequently, she took labor, and after four hours' illness, expelled a living female child, which presented with the breech. Immediately following the placenta was a mass of coagulated blood and fibrine. The placenta was healthy, but of a rather pale colour and infirm structure. Her pulse continued frequent for some days after delivery, but she nevertheless made an excellent recovery.

There can be little doubt that this case was one of dropsy of the amnion (or of the chorion), the fluid at times making its escape externally, and always with marked relief to the abdominal pain. The hæmorrhage arose from "accidental detachment of the placenta," produced probably by the alternate distension and relaxation of the uterus.

I have heard the late Dr. Montgomery relate a case in which a phenomenon, very similar to that described in the foregoing history, took place; with this difference, that the serous discharges only occurred when the patient was in the horizontal position, and ceased when she assumed the erect posture. Upon careful examination, after delivery, he discovered a very small, well-defined, circular aperture in the membranes, in a situation which had corresponded with the vicinity of the os uteri; he supposed, therefore, that when the woman was erect the pressure of the fœtal head had closed this foramen, but that when she was lying the pressure was removed and the water escaped.

A dropsical state of the amnios is a very common condition of abortive ova; and I cannot help thinking, with the late Professor Andrew Retzius of Christiania (who drew my attention to this fact when looking over the museum at the Lying-in hospital), that it is a very frequent cause of the early death and expulsion of the embryo.

Of thirty-three cases of amniotic dropsy carefully noted by me, *one* ended in abortion at the fifth month, and *one* at the sixth month; *twelve* resulted in the decidedly premature expulsion of the fœtus; and in the remainder, the child seemed

to have reached the ninth month, though in some of them it most probably had not completed it.

There seems good reason to believe, that some of the cases of the disease called "hydrometra," or dropsy of the womb, were of the kind now under consideration—were, strictly speaking, a disease of the ovum, and not of the uterus; just as the so-called hydatids of the uterus is, in truth, a disease affecting only the involucra of the embryo. Many of the recorded cases of "hydrometra" admitted of a much more rational explanation of their history and phenomena, and one more consistent with the physiology of the uterus, on this supposition than on any other pathological view.

This morbid excess of the liquor amnii, or, perhaps, the morbid action from which it results, seems to be very unfavorable to the well-being of the fœtus, as *nine* of the children were dead born, *five* of which were in a putrid condition; and *ten* of the live born children died within a few hours after birth. It occurred more frequently with female than with male children, in the proportion of *twenty-five* of the former to *eight* of the latter. The great difference between these numbers is very remarkable, and would almost suggest the probability of there being something more than a mere accidental association of this disease with children of the female sex.

The presenting part of the child was noted in *thirty-one* instances, and among these the head presented on *twenty* occasions, the pelvic extremity *nine* times, and the upper extremity *once*. We could not from these examples safely infer that a redundancy of the liquor amnii favoured preternatural presentation, because there was another circumstance connected with these cases which would go far to account for it, namely, the great frequency among them of premature labor—of the *thirty-three* cases nearly one-half having terminated in the premature expulsion of the ovum.

In this disease it would, perhaps, be rather difficult to trace the symptoms, occasionally present, to their real cause, unless the dropsical condition of the amnion was discoverable by physical examination. The enlarged uterus may be con-

founded with plural pregnancy, or with ascites. Where there is much distension of the uterus a feeling of fluctuation will be communicated with great distinctness to the hand on percussing the abdomen, so that, in extreme cases, it would be impossible to arrive at a positive conclusion by this mode of examination. Internal examination will generally supply stronger evidence. The expanded state of the cervix, the extreme tension of the lower segment of the uterus (or of the membranes, if the os be open), and the ease with which the child can be displaced, are all corroborative signs of the ovum being unusually distended with fluid. With reference to the last-mentioned sign, we must bear in mind what occurred in Case 3, already related, which clearly shows that a dropsical ovum may co-exist with immobility of the presenting fœtus.

Some writers have stated that inaudibility of the fœtal heart's sounds, and of the placental murmur, are results of amniotic dropsy. But this observation can only be received in a very qualified manner. No doubt, in a considerable proportion of these cases, the child *is* dead, and its heart, therefore, inaudible; in many of them the patient is still far removed from the end of pregnancy, and this in itself creates a difficulty to hearing the fœtal heart; but, in these and the remaining cases, we may generally succeed in detecting it, as I myself repeatedly have done, by persevering and diligent exploration.

In a few instances I have heard the placental murmur distinctly, and with all the characters belonging to it. In these cases I discovered it accidentally. Not having specially sought for it in any of the cases, I cannot say whether it is more or less easy of detection than under ordinary circumstances. The entire superficies of the uterus is certainly very much increased, but in the same proportion is the placental area increased; and, I have little doubt, it is the interference arising therefrom to the placental circulation, which causes so many of the fœtuses to be born in a dead or dying state.

The first stage of labor is very commonly protracted in this disease from inertia caused by the over distension of the uterine fibres. Occasionally the cervix is completely effaced,

and the mouth of the womb in a somewhat dilated state for days; but the uterus seems incapable of making any vigorous effort to expel its contents, or to rupture the membranes. Case 1 was a good example of this, as was also the following:—

Case 6.—A woman, seven months pregnant of her eighth child, presented herself at the dispensary of the Lying-in hospital, complaining of pain in the belly, and of her unnatural size, which led her to think she must be "distended with wind or water in addition to being with child." The uterine tumour was larger than it ordinarily is at the end of the ninth month, and this abnormal increase of bulk had taken place, she said, within the last fortnight. Her feet were slightly œdematous. Dropsy of the amnios was suspected, and this opinion was confirmed on examination. The lower segment of the uterus was full and tense, the os uteri enlarged to the size of a shilling, and the membranes pressing strongly into it, and no part of the child could be felt presenting. She would not remain in the hospital, though urged to do so on the ground that her labor had set in. This, she said, was next to impossible; as, if so, she must have been in labor for fully five days; and it certainly seemed not altogether improbable that the uterus had been making slight, but ineffectual parturient efforts throughout this period. Some hours after leaving the hospital, the membranes gave way, and several quarts of water were discharged. A premature male child was expelled footling, but owing to delay between the birth of the trunk and head, through the want of proper assistance, its life was lost.

This fœtus presented some malformations. There was a total absence of the thumb of the right hand, which was in a state of forced flexion. The umbilical aperture was very large, and through it protruded the spleen and small intestines. These, together with several ounces of clear amber-colored fluid, were contained in a cyst formed by the membranes of the cord. An inch on the placental side of this cyst was another globular swelling of the cord, about the size of an orange, and likewise containing yellow fluid.

In the above, as well as in a few other cases, the feet, or the feet and legs of the patient, were anasarcous. But this in no way subverts the observation already made, 'that this disease (*i. e.* hydrops amnii) does not depend on a dropsical diathesis of the woman herself;' for, in these *apparently* exceptional cases, the swelling of the lower extremities was, undoubtedly, a result of the simple mechanical pressure of the enormously enlarged uterus; and is, therefore, no evidence whatever of any general dropsical tendency.

A question of deepest interest, connected with this disease of the ovum, is its influence on *maternal mortality*. Now, of the thirty-three cases here reported, *four* ended in the death of the mother. *One* was from rupture of the uterus (the child, in this instance, was hydrocephalic); *another* from puerperal fever, which was at the time epidemic; and the other *two* deaths were from debility and prostration. Each of these latter women had been confined of twins, and was in a broken-down state of health at the time of delivery. The above results would seem to justify the observation, that a comparatively high rate of mortality may be expected amongst patients who are the subjects of dropsy of the ovum. One very influential reason for this may be found in the fact that a large proportion of these women are in a more or less cachectic, debilitated condition of body; in fact, this state may be regarded as a strong predisposing cause of the disease. Of the women who recovered, *three* had smart attacks of uterine inflammation after delivery.

With regard to the *condition of the fœtus* in cases of amniotic dropsy, I shall briefly state what was observed in thirty-three instances.

One of the children, a girl, was hydrocephalic. In this case rupture of the uterus took place, and the woman died. The proper structure of the organ was affected with a kind of red softening, of which I have seen two or three examples.

In none of the cases which have fallen under my observation was the fœtus acephalous. It has been supposed by some writers, that a morbid excess of the liquor amnii is frequently associated with a hydrocephalic, or an anencephalous

state of the fœtus; but, certainly, my experience does not give support to this opinion.

In *one* instance, the child, a female, was ascitic; and in this, and one other case, a male, the cord was œdematous.

One child, a male, which appeared to have been dead for some days, presented a general anasarcous condition.

One child, a male, had some malformations, already described in Case 6.

Although, on the whole, we find that a large proportion, about one in six, of the children coexisting with hydrops amnii presented some unnatural or morbid condition, still the facts do not seem to show that any one particular lesion or malformation more than another is connected with the disease in question.

The effect of this super-excess of liquor amnii upon the process of labor is generally, indeed I may say always, to retard it. The pains are constant, but not severe—not amounting to the degree of regular parturient pains; but yet they are most teazing to the patient. Very many hours, or even days, as we have seen, may be consumed in this way before the os uteri will have reached the size of a penny. Under circumstances such as these, and where the accession of labor has evidently taken place, there may be no hesitation about letting off the water, with such precautions as the position of the fœtus may call for.

I know of no *treatment* capable of arresting the secretion of the liquor amnii, or of causing its absorption when already secreted to an excessive amount. I have made trial of mercury, hydriodate of potash, diuretics, and other remedies, but could not perceive any good effect from their employment. Of course, when the distension of the uterus becomes enormous, puncture of the membranes must be performed, even though labor may yet seem distant, in the natural course of events. The patient may suffer much pain and discomfort, apparently connected with the disease in question, as, for example, in Case 4; but where as yet the distension of the uterus is not so great as to justify a measure which we know will bring on labor. If it were possible to draw off only a

portion of the fluid contents of the amnion, perhaps labor would not immediately follow, and doubtless great relief would accrue to the patient, who could thus be carried forward in her pregnancy. The history of Case 5 furnishes us with a very good precedent for such a practice. Here nature seems to have tapped, as it were, the dropsical ovum from time to time, and let off a quantity of the superfluous fluid contained within it. How to explain the mode by which this was effected, I am quite at a loss; as we have seen, the patient always experienced very great relief, however, by these discharges; and, it is more than probable, that but for them her pregnancy would not have gone on so long as it did; its premature occurrence eventually, was, without doubt, the consequence of the severe hæmorrhages.

In the heading of this memoir, I have called the disease we have been considering "dropsy of the ovum," because it may fairly admit of question in some cases whether the excess of secretion be in the amnios or in the chorion. Every accoucheur occasionally meets with instances where there are "false waters," or liquor chorii; and hence I see no reason why this may not be in excess as well as the liquor amnii. Such would seem to have been the case in the following instance, which was communicated to me by Dr. Brunker, of Dundalk.

Case 7.—The patient was in her ninth pregnancy, and, from her great size and the evident abdominal fluctuation, she was supposed to have ascites, superadded to pregnancy. For some days previously to Dr. Brunker's seeing her, the abdomen had so rapidly increased, and to such an extent, as to be productive of extreme bodily inconvenience, and embarrassment to respiration. The patient had not been able to lie down for days. The belly was distended apparently to the utmost degree, and on percussing it a most distinct fluctuation was perceptible. It was agreed between Dr. Brunker and Dr. Browne (the gentleman in attendance), to puncture the membranes and so permit the evacuation of the waters. This was easily done, and an enormous quantity of fluid came away, with great relief to the patient. Labor supervened in

twelve hours, when the woman gave birth to twins, and with each fœtus "there was an unruptured bag of membranes." The children appeared to be of seven and a-half months' development; they breathed feebly, but did not long survive. The patient made a very good recovery.

One case more I must be allowed to relate. There were other circumstances about it besides the amniotic dropsy which render its history interesting.

Case 8.—E. D., aged 40 years, seventh pregnancy, was admitted to the Lying-in hospital, 21st February, 1857. Soon after her admission the membranes ruptured, and upwards of *eight quarts* of bloody liquor amnii were discharged. The uterus immediately contracted pretty firmly on the child. Upon making a vaginal examination, the greater part of the placenta was found protruding through the os uteri, and an arm of the child presenting. Some hæmorrhage was going on. As the uterus was contracting strongly, she was put under the influence of chloroform preparatory to the operation of turning. On introducing my hand for this purpose, I discovered that the os had contracted so much as to permit only two fingers to get through it; however, with these two I was fortunate enough to seize and bring down a leg. Much trouble was experienced in extracting the body of the child, which was a female and in a decomposed state. On the second day she had a rigor, followed by rapid pulse, hot skin, and a dry brown tongue, but no uterine pain or tenderness. She was ordered large doses of James' powder, (Newbery's, what I always prescribe,) four ounces of brandy in the day, and poultices to the belly. On the third day the pulse was 100, and on the fifth day it had fallen to 88. She was quite well and able to go home on her ninth day.

I have prefaced this memoir with the observation that we know, as yet, very little of the pathology of dropsy of the ovum. Of its particular cause, it must be confessed, we know absolutely nothing.

Still, the facts I have brought forward have a bearing upon the general pathology of this disease, and enlighten us

upon some important points connected therewith. To sum up, then:—

1. Dropsy of the ovum certainly does *not* depend on any dropsical diathesis of the patient herself. This fact, I think, is clearly established.

2. There is no doubt, also, that it may occur quite independently of any dropsical condition of the fœtus, such a concurrence being but very rarely met with; and hence being, we may presume, purely accidental.

3. It is not constantly associated with any appreciable morbid condition of the membranes or placenta;—at least in some exceptional cases only did they present any deviation from their ordinary appearance.

4. Neither does it seem that there is any particular morbid condition of the fœtus with which it has special relation or connexion; although a large proportion of the children have presented some deviation in structure or conformation from the healthy and normal condition.

5. The cause of the dropsy would seem to be purely local. This is inferrible from the frequently observed fact, that in plural pregnancies, where the disease was present, it was confined in every instance to one ovum only.

6. My experience of this disease does not lead me to think that it has any necessary connexion with syphilis. In only one of all the cases on which these observations are founded was there any just ground for supposing the woman to be infected with the syphilitic poison. In this exceptional case, father and mother, and child, all presented unequivocal venereal symptoms.

7. The facts contained in this memoir would, so far as they go, lead us to believe that the disease in question exerts a prejudicial influence upon the patient's recovery,—*four* out of thirty-three of my cases having died; even if we set aside two of these deaths as resulting from accidental causes, viz. rupture of the uterus, and epidemic puerperal fever, we still have a death rate of *two* in thirty-one, or 6·45 per cent.

With regard to the vital *functions* of the amnios, we meet with three classes of facts which help to illustrate them.

1. Cases of plural births occasionally are met with in which one of the fœtuses having been blighted, the fluid contents of its enveloping amnion have disappeared. This I would attribute to its *absorption* by the membrane itself.

2. Again, we meet with cases in which the liquor amnii presents a very altered appearance—all its sensible characters being changed, and, instead of being transparent, thin, and inodorous, it is thick, turbid, and fetid. This is an instance of *morbid or perverted secretion*.

3. Lastly, we have seen that the quantity of the secretion may be enormously *increased*, or may be speedily replaced if it come away.

These facts all concur in strengthening the analogy as regards active functions, between the amnios and serous membranes, by showing that the former can, under certain circumstances, *increase*, *absorb*, or *alter* its proper secretion.

All this does not carry us far, however, towards explaining how the disease in question is produced. But I believe we must rest content with this limited amount of knowledge till physiologists make us better acquainted with the vital constitution of the amnion and other temporary organs concerned in the nutrition and development of the fœtus.

CYSTIC DISEASE OF THE OVUM.

This disease is variously designated by authors. The names of "hydatid mole," "uterine hydatids," "vesicular mole," "vesicular hydatids," "hydatiginous disease of the ovum," "cystic disease of the chorion," "hydatidiform degeneration of the ovum," "cystic disease of the ovum," &c., have all been applied to it; and this varied nomenclature exhibits the uncertainty of opinion respecting its nature. The last mentioned appellation is the one employed by Mr. Paget, and as I believe it most truly expresses the pathological nature of the complaint, I give it the preference. The name commonly given to it, viz., "hydatids of the uterus," is, perhaps, the least correct of any, inasmuch as the disease in question is not hydatids, nor is the uterus the part affected,—facts which Cruveilhier was the first to point out.

Although the *diagnosis* of cystic disease of the ovum can rarely be made until the expulsion of some of the vesicles has taken place, still there are certain symptoms whose presence in a suspected case would form a very just ground for believing that the uterus contained hydatids. The early history of nearly all these cases is that of pregnancy up to a certain period, when the ordinary symptoms of this state disappear, and are replaced by others; or to the ordinary symptoms are superadded some new and unusual ones. Persistent vomiting, unusual hardness of the uterine tumour, a disproportionate size of the latter to the supposed duration of pregnancy,

irregular and sudden discharges of reddish water, are, I believe, the most reliable indications of the presence of this disease. The increase of the uterine tumour may proceed with great rapidity. In Case 5, the uterus reached the umbilicus though the woman was only four months gone; and Dr. Graily Hewitt reports a case in the *Lancet*, where the uterus had risen two inches above the navel, when only three months of pregnancy had passed over. The differential diagnosis generally lies between normal and abnormal gestation, and under both these circumstances there will be enlargement of the uterus, and some of the other symptoms of pregnancy.

A recent writer upon this subject, Dr. Ashley, mentions "the absence of the placentary murmur, or uterine souffle, as well as the pulsation of the fœtal heart, as one of the marks by which to distinguish hydatid from true pregnancy." In the first case which I shall relate, however, there existed a well-marked placental souffle on the left side of the uterine tumour; and so characteristic was the sound, that the most experienced auscultator could not have detected any deviation. Other observers, also, have heard this souffle in similar cases. Its presence here may appear surprising, though in reality it is little more so than the fact, which I have on numberless occasions ascertained myself, viz., that the placental souffle continues after the death of the embryo, apparently unaffected by this event. It is almost needless to say, that in every case of uterine hydatids there will, as an almost invariable rule, be an absence of the cardiac sounds of the fœtus, as well as an impossibility to practise *ballottement* or repercussion.

Case 1.—M. L., aged 33, admitted to the chronic ward of the Lying-in hospital, 28th December, 1855. Is married, and the mother of two children: a year and a-half since her last confinement. After weaning her child, she menstruated regularly for two periods, when impregnation took place, as she supposes, and manifested itself by the usual symptoms, viz., amenorrhœa, morning sickness, and mammary enlargement. Two months ago, she began to have occasional

discharges of blood from the vagina, and about this time (when, if pregnant, she was little more than two months so), the morning sickness ceased, and the breasts resumed their ordinary condition. The red discharge from the uterus had been at times of almost watery consistence. Shortly before her admission, there had been a considerable amount of hæmorrhage. The uterine tumour was very globular, and corresponded pretty nearly in size to the gravid uterus at the fifth month. From its roundness and great mobility, I was at first uncertain whether this tumour could be the distended uterus. Examination *per vaginam* did not decide the point, owing to the uterus being unusually high up. On further manipulation of this hypogastric tumour, I distinctly felt it *becoming hard and defined under my hand*, from which circumstance, *together with its non-resonance on percussion*, I concluded it must be the uterus. Towards the left iliac region, there was a loud, prolonged souffle, apparently depending on the presence of the placenta. Careful and repeated examination failed to detect fœtal pulsation of any kind. The breasts were flaccid, and the areola possessed none of the characters belonging to true pregnancy.

Some days after her reception into the hospital, she expelled a quantity of so-called hydatids; these were of different sizes, from a grape to a pin's head, and were connected together by filamentous or thread-like processes; some were hanging free, and others were imbedded in fibrinous reddish substance, bearing a close resemblance to softened placenta. In the centre of this mass were two or three dark clots of blood. This patient left the hospital perfectly well some days afterwards, and, since then, has been twice safely delivered there, at the full term of pregnancy.

There can be no doubt that in this instance conception took place, and gestation proceeded in a normal manner for about two months, after which time the cessation of morning sickness, and disappearance of the mammary symptoms of pregnancy, would seem to indicate the death of the embryo, and the commencement of morbid action in the ovum.

I have stated that in Case 1, the diagnosis of the nature of

the abdominal tumour was based upon the fact of its becoming sensibly hard and defined under the hand, together with its dulness on percussion. These characters do not collectively belong to those deceptive tumours which have been very aptly styled "phantom tumours." The phantom tumour *grows* under the hand, increases in firmness during some minutes, and then gradually disperses, and "leaves not a trace behind." It is, moreover, generally, if not always, *resonant* on percussion. Hardness of the uterine tumour is mentioned by Dr. Montgomery as a circumstance occasionally attendant upon hydatiginous disease of the ovum; but this would seem to be a *permanent* hardness. In the above case, it was *the fact of the tumour becoming sensibly harder to the touch, that led me to discover its true uterine nature.*

Some writers have supposed, that women are liable to a recurrence of this vesicular disease after a subsequent conception. Such a repetition I would look upon as purely accidental; no instance of hydatids occurring twice, in the same patient, having ever come within my knowledge: neither do I recollect having ever read of any such case. This furnishes a strong argument in favour of the independence of the disease of any constitutional taint in the mother.

Case 2.—R. B. aged 38, a small but healthy-looking woman, presented herself at the Lying-in hospital as an extern patient, in the autumn of 1855, on account of a bloody discharge from the vagina, and stated that she was about six months advanced in her eighth pregnancy, and that she had distinctly felt the motions of the child. She suffered much from sickness of stomach, and for some weeks back she had occasional discharges of blood and reddish water from the vagina. The uterine tumour corresponded in size to the supposed period of gestation. On examination *per vaginam*, the os uteri was found low and patulous, and the distended bag of membranes lay immediately within it. I regret to say, that no further examination of the case was made at this time. The woman would not then come into the house, and from the above facts I hastily concluded, that her case was one of ordinary accidental hæmorrhage. The following morning

she was seized with labor pains, followed by severe hæmorrhage, and she set out to walk to the hospital, the distance not being far—(she lived in Dominick-street.) The pains increased in strength and frequency, and on the way she discharged a large mass of substance, which she carefully gathered up in her apron, and brought with her into the hospital. There was half the full of an ordinary wash-hand basin of cysts, varying in size from a millet seed to a grape. The smaller ones were reddish, the larger of a pale straw colour. They were, for the most part, imbedded in a fleshy-looking substance like placenta; and the whole seemed to have been enveloped or inclosed in a membrane. No trace of an embryo. For two or three days after delivery, the uterine tumour could be felt as in any ordinary puerperal patient, but no secretion of milk, nor even any fulness of the breasts, took place. Her recovery proceeded most favourably, and she went home on the eighth day.

I shall have occasion further on to advert to some of the features of this case; but here I would just remark, that it is one of the many examples falling under our observation, that tend to prove the utter worthlessness of a patient's own sensations as evidence of fœtal movements. This woman was the mother of seven children, and, therefore, might well be supposed to have known what were the sensations occasioned by the presence of a living fœtus *in utero*, yet she confidently assured us she had distinctly and unmistakeably felt the movements of a child.

Although this disease has been long known to physicians—it is said that Ætius has distinctly alluded to it—yet very vague notions have, until lately, been entertained of its nature and cause. Valesneri was, perhaps, the first to make some approach to the truth, when he said it consisted of an enlargement of globules or pouches, which he thought he had discovered to belong to the lymphatic vessels of the placenta, chorion, and amnios, as a natural arrangement, but which from some morbid cause had undergone a great development. (Dewees.) This view was adopted, with some modification, by Desormeaux.

Before going further, let us ask, What connexion has this disease with conception? This is a question of a forensic as well as a pathological bearing; and might, perhaps, be more correctly put in this form, Is the disease a truly uterine or ovuline one? Among practical writers, the weight of authority altogether inclines to the latter view; but yet those of an opposite way of thinking may have some truth on their side. I shall not enter upon the discussion of this controverted point, or examine the arguments that have been adduced on both sides, as this would occupy us too long, but merely give my own opinion respecting it. The word "hydatid," as used by writers, has a very comprehensive meaning, and has been applied to organic products differing essentially in their origin and nature. Bearing this in mind, I think we shall have some explanation of the discrepancy in the opinions entertained upon the point before us. The *vesicular hydatid,* or simple serous cyst, such as was met with in the preceding cases, would seem, invariably to have its seat in some of the products of conception. In every example of the disease that has fallen under my own observation, or come within the sphere of my knowledge, the history and symptoms and the anatomical appearances of the ejected mass all justified the conclusion, that the disease supervened upon impregnation. I do not know of any recorded case where vesicular hydatids first began to appear after the woman had passed the child-bearing age; and this in itself is a fact worthy of some attention.

Moreover, when a woman, who *ought not* (morally that is) to be pregnant, expels a mass of hydatids, it is expecting too much to suppose that, in the absence of any such unequivocal evidence as an embryo or fœtus, she will criminate herself. "Still it must be confessed," to quote the language of Professor Montgomery, "that our knowledge on this point is by no means sufficiently precise, nor our collection of facts sufficiently extended, to warrant us in pronouncing positively on the question, or asserting decidedly, in a case of suspicion, that a woman was pregnant merely because she discharged hydatids from the uterus, except we could detect along with

them some constituent part of the ovum, or, in an examination after death, find in the ovary the true corpus luteum, which ought to put an end to all doubt. It would be presumptuous and absurd to maintain, that because we had always found them in connexion with one particular cause, there *might not* be some other also capable of producing them; and as there may be a doubt, we must let the accused have the benefit of that doubt." So far as anatomical investigation has yet gone, it leads us to believe that the vesicular hydatids originate in the chorion; but if it ever be shown that they are developed in the decidua, this will furnish a ground of strong probability for their appearance in an unimpregnated uterus, inasmuch as we know that a membrane exactly resembling the decidua is sometimes discharged from the uterus in dysmenorrhœa, even in the case of virgins.

Although it be true that hydatids *originate* in the chorion, it is still quite possible that they may be discharged from the uterus subsequently to sexual intercourse, at periods much longer than that of normal gestation. Hence, for example, the expulsion of hydatids by a widow, even several months after the death of her husband, should not militate against her reputation, unless sustained by other evidence. For, hydatids may be retained *in utero* during many months or years, or a portion only may be expelled, and the residue may throw out a fresh crop of vesicles, to be discharged on a future occasion.

So far I have been speaking only of the vesicular hydatid (or cystic disease of the ovum), and, I believe, that to this kind belong all the instances on record (with two or three doubtful exceptions) of what were supposed to be *true* uterine hydatids.

Other and rarer varieties of hydatid formation, such, for instance, as the acephalocyst, or the cysticercus, may, perhaps, be developed in the *substance* of the uterus as in other organs, and, subsequently bursting into its cavity, be discharged *per vaginam*. A case which fell under the observation of Dr. Graily Hewitt deserves to be noticed here. "A young unmarried woman died with excessive enlargement of the

abdomen, and on examination it proved, that the peritoneal cavity was beset with true hydatid cysts, which had originated primarily in the liver. These hydatic cysts were found attached to the uterus anteriorly as well as posteriorly, to the ovaries, to the walls of the pelvis, in fact, few portions of the peritoneal surface were without them. Had life been prolonged, the bursting of some of these cysts into the uterus, or into the vagina, was almost inevitable, and then the phenomenon would have been presented of a young unmarried woman discharging true hydatids from the generative passages."

Whether true hydatids are ever primarily developed in the *cavity* of the uterus is a pathological question which yet remains to be determined. Analogy would lead us to doubt the possibility of such an occurrence, as I do not know of any instance of true hydatids being developed in a cavity lined by mucous membrane. Rokitansky certainly mentions having inspected one—and only one—case of uterine acephalocysts; but the particulars of this case should be known before it could be received as an exception to the foregoing statement. It would seem possible for them to be developed in the *substance* of the uterus (of which Dr. Ashwell gives an example); and thence to be discharged into the uterus and vagina.

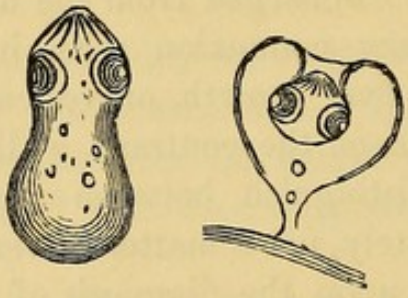
The conclusions, then, to which I think we are led, in the present state of facts, are, first, that it is just possible for *true* hydatids to be discharged from the uterus, and without having any necessary connexion with impregnation; and, secondly, that the cyst growth, or vesicular hydatid, ordinarily discharged is, on the contrary, a diseased product of conception. To distinguish between these two kinds of growths is, fortunately, not a matter of very great difficulty.

Whilst speaking upon the diagnosis of hydatids, the following remarks by a recent writer, Surgeon Richardson, of this city, are so apposite, that I need offer no apology for quoting them here. The subject of the lecture, in the course of which they occur, was cystic sarcoma of the female breast.

"So much misapprehension exists relative to the hydatid,

and so frequent is the misapplication of this term, that I think it advisable to digress here and make a few observations on that interesting parasite. The confounding of true hydatids with other cysts is a frequent error, very prevalent at the present day, and is greatly to be regretted. It should not be assumed that a cyst is an hydatid, without a minute examination of its structure and contents. True hydatids are, comparatively speaking, rare in the breast; and I, therefore, advise you not hastily to assume the presence of an hydatid unless you find whole, or portions of echinococci, of which the cyst is the habitat. The *echinococcus hominis*, as it has been named by Rudolphi, was at one time supposed not to be a constant attendant upon the acephalocyst; and, as Dr. Budd remarks, it was regarded as a parasite of the hydatid. The extended investigations of M. Livois, who examined more than eight hundred hydatids, however, have made it extremely probable that the echinococcus is present in every acephalocyst, as he found them in all those he examined. Now, if you examine a true hydatid, you will most probably find, either floating free in the fluid, or, as Davaine mentions, attached to the internal surface of the cyst by means of an extremely delicate pedicle, small corpuscles which have been resembled to grains of sand.

FIG. 31.

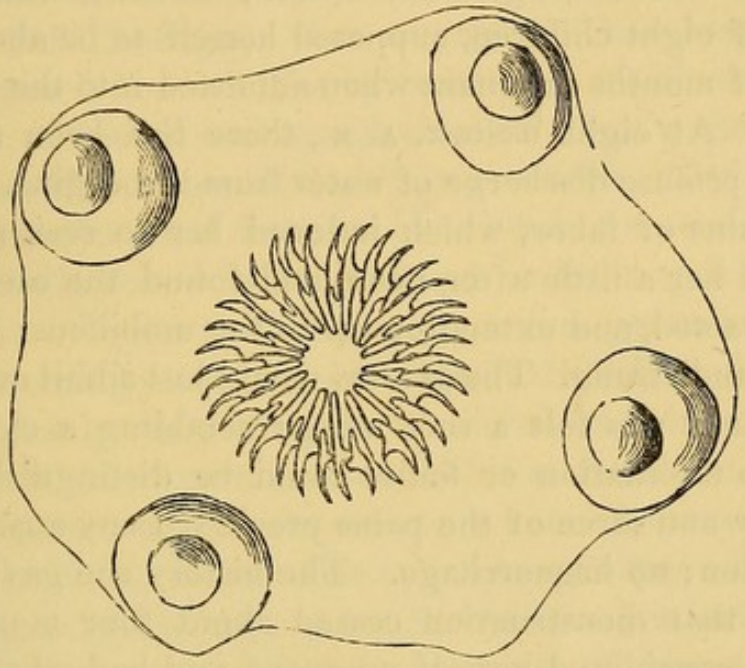


Echinococci. One is represented free, with the anterior extremity extruded; the other is attached, with the head retracted.

Under the microscope these little bodies are found to be somewhat elongated, oval, round, or pear-shaped. Each is provided anteriorly with four suckers and a double row of hooks like the cysticercus.

With the appearance of the echinococci you should make yourselves familiar, as you may thereby avoid falling into the error of confounding its residence, the acephalocyst, with other cysts.

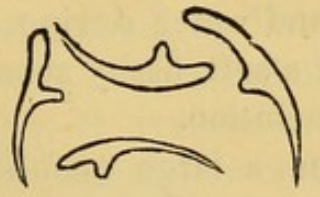
FIG. 32.



Head of a cysticercus from the rabbit. Outline drawn with the camera. Magnified about thirty-five diameters.

Although Sir A. Cooper describes the true hydatid disease of the breast in his chapter on that disease, yet there can be little doubt, as Sir B. Brodie remarks, the account Sir Astley has given of the hydatid breast has been taken principally from cases of sero-cystic tumours. I mention this to show you the necessity of your familiarizing yourselves with the

FIG, 33.



Hooks from Echinococci.

appearances of the echinococci and their hooks; for, in despite of all that has been written on the subject, and our

present improved mode of making minute investigations, ordinary cysts are daily confounded with the true hydatid."

Before speaking of the treatment required in cases of this disease, let me make a few observations upon its anatomical characters. But I must first relate a case.

Case 3.—M. W., aged 40, a thin, delicate woman, and mother of eight children, supposed herself to be about three and a half months pregnant when admitted into the Lying-in hospital. At eight o'clock, A. M., there had been a sudden and very profuse discharge of water from the vagina, followed by the pains of labor, which induced her to seek relief. I examined her a little after noon, and found the uterus hard and contracted, and extending up to the umbilicus; the pains frequent and strong. The os uteri would just admit one finger, and within it was felt a soft mass resembling a clot or placenta; no fluctuation or fœtus could be distinguished; the frequency and force of the pains precluded any auscultatory examination; no hæmorrhage. The history she gave of herself was, that menstruation ceased about four months ago, when she considered herself pregnant, and had all the symptoms usually attendant upon pregnancy, for two months; she then began to suffer from constant and severe sickness of stomach, and to have frequent discharges of blood and of reddish water from the vagina.

After examining her, I had little hesitation in pronouncing her case to be one of uterine hydatids; or, to speak more correctly, of cystic disease of the ovum. The disproportionate size of the uterus as compared with the duration of pregnancy, the constant nausea and sickness of the stomach for the preceding two months, together with the occasional discharges of blood and water during the same period, and lastly the presence of a soft fleshy substance in the os uteri, all pointed to this conclusion.

At two o'clock, P. M., a large quantity of coagula and of vesicular hydatids were expelled from the uterus. In point of size the cysts varied little from that of a currant, and their colour was pale red. After careful search, I failed to discover any trace of amnion or chorion in the diseased mass.

Notwithstanding that this woman was in a very broken-down state of health, and laboured under a distressing attack of bronchitis at the time of her admission, she nevertheless recovered very well, and left the hospital in eight days.

At my request the substance discharged from the uterus of this patient was submitted to careful inspection by Surgeon Savery (of Hastings), then a pupil of the hospital. His report is as follows: "The hydatid mass, which was attached to clots of blood, and weighed about twenty-four ounces, consisted of numerous translucent vesicles, varying in size from that of a hazel nut to a pin's head; the smaller vesicles were usually found to be attached to the larger by delicate filaments. Under the microscope, a fine granular wall (the granules being about one-six-thousandth of an inch in diameter) closely resembling the condition of the membranes in process of decomposition, was all that could be discerned; there was no true vascular structure to be discovered, nor any trace of ecchinococci or other hydatid organization." Surgeon Richardson and I very carefully examined a portion of the above preparation, under an excellent Oberhauser of high power, and discovered cysts in every stage of growth from the simple enlarged cell in an apparently healthy villus, to the fully developed vesicle hanging by its delicate stalk, and exhibiting rudimentary villi sprouting from its exterior surface.

A difference of opinion exists among some high authorities, as to whether the morbid enlargement of the villus is due to the inordinate development of one of its elementary component cells—which is Mettenheimer's theory; or to distension of the interior of the villus by serous effusion, which is the view entertained by Dr. Gierse and Dr. Graily Hewitt. This, however, is a question upon which I do not feel myself competent to pronounce any decisive opinion, although adopting the description of Mettenheimer. It does not appear to be a point of any real practical importance.

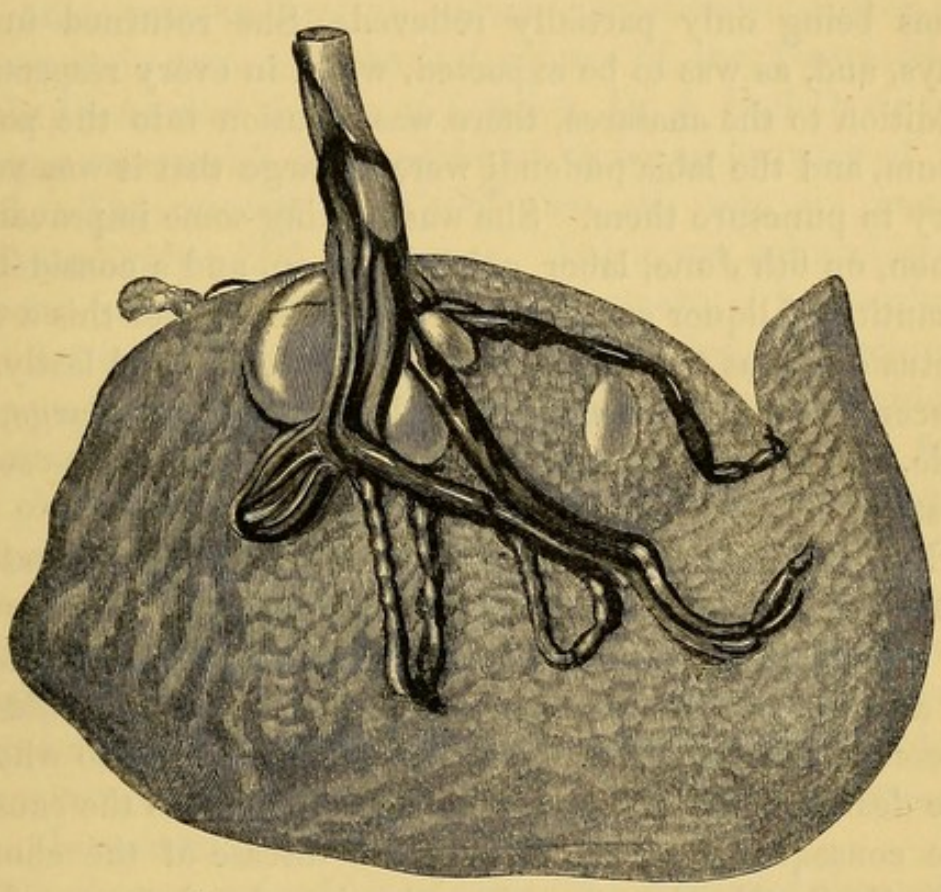
The most remarkable characteristic of these cysts is their wonderfully proliferous power, in which particular they resemble the compound ovarian cysts, so accurately described

by Dr. Hodgkin. But they differ in this remarkable manner, that in the ovarian disease the reproductive property appertains to the *interior* of the cyst, whilst in the ovuline disease it would seem to belong only to the *exterior* of the cyst. With reference to the compound ovarian cysts, Mr. Simon, in his lectures on General Pathology, makes some remarks, which I think may, with equal propriety, apply to the multiple cysts of the ovum, and I therefore make no apology for quoting them. "Confining myself now to the ovarian disease, I would tell you that its essential phenomenon may be described as a cyst-growth, tending to become perpetual by means of endogenesis of a new cyst similarly prolific. This phenomenon stands, I apprehend, quite alone in the economy; it constitutes a disease essentially self-productive, a disease in which each step tends to provide for the succession of another similar step, and in this respect it bears much nearer analogy to the increase of parasitic organisms than to the progress of any known structural disease. And as I reflect on the organ in which alone this mysterious disease occurs, an organ as special in its function as the disease is special in its nature, as I find that it is only in that germ-bearing organ that this germinating disease is known, and that it constitutes there a morbid mimicry of the reproductive functions, I cannot but connect these facts together as a clue to interpreting the disease, a clue which, to my mind, I confess, strongly suggests the possibility of an unimpregnated ovum spontaneously undergoing these acts of pseudo-development, so as to simulate the relations of a parasite towards the organism in which it occurs."

A patient was confined in the Lying-in hospital at the end of the eighth month, of living twins, and one of the placentæ had some vesicles or cysts on its fœtal surface. The biggest of these vesicles was about the size of a large grape, and they all contained a translucent fluid of yellowish colour. The accompanying cut, fig. 34, will give a very correct idea of the size and situation of these bodies. The amnion is here peeled off. The cysts were placed underneath (that is, on the exterior), of the chorion. The funis had a marginal insertion,

and the greater part of the fœtal surface of the after-birth, was rough and granulated, owing to the presence of numerous small greyish bodies, like fibrin. The case is mentioned here as it is the only one I have ever seen in which there was any

FIG. 34.



Fœtal surface of a placenta at term, containing serous cysts.

approach to hydatid or cyst formation at so late a period of pregnancy, or with a living embryo. Whether these vesicles, in their pathogenesis were indentical with the cystic disease of the chorion, I cannot say; but certainly their appearance and their position on the external surface of this membrane, would seem to show a very strong analogy, if not an actual identity of the two diseases.

Nine cases of cystic disease of the ovum have come under my immediate notice, and in only one of these was there any embryo discoverable. The case is worthy of being related, especially in connexion with the one just now adverted to, in which cysts were found in the placenta.

Case 4.—E. R. aged 28, third pregnancy, menstruated shortly before Christmas, 1859, and not afterwards. At the end of April, she was admitted to the chronic ward of the Lying-in hospital with acute general dropsy and albuminous urine, and being, as she supposed, four months pregnant. She insisted on going out of the hospital 11th May, her symptoms being only partially relieved. She returned in ten days, and, as was to be expected, worse in every respect. In addition to the anasarca, there was effusion into the peritoneum, and the labia pudendi were so large that it was necessary to puncture them. She was making some improvement when, on 6th June, labor pains came on, and a considerable quantity of liquor amnii was discharged. After this a dead fœtus of about the fourth month came away, and lastly, the placenta and membranes. The placenta was very large, soft, pale, and œdematous, and thickly studded with white serous cysts of all sizes, from a grape downwards.

Not the least remarkable feature of this case was the period of development the fœtus had reached. In very few of the recorded examples of this disease was there any vestige of an embryo. Its absence would seem to be the rule—its presence the exception. Authors are divided as to whether the death of the embryo is to be regarded as the cause or the consequence of the hydatiform disease of the chorion. Dr. Graily Hewitt strongly maintains the former opinion, and it certainly would seem to furnish a better explanation for the frequent absence, or decomposed state, of the embryo, than does the other hypothesis. The period of utero-gestation at which the embryo dies materially affects the development of the disease. Upon this point Dr. Graily Hewitt observes: "If the death of the embryo occur very early, and before the appropriation of certain of the villi to form the fœtal placenta has commenced, the ovum may continue to grow, and may remain in the cavity of the uterus; and, in such a case, the whole of the chorionic membrane would give rise to hydatidiform villi. If, on the other hand, the death of the embryo be postponed until the formation of the fœtal placenta has commenced, the hydatidiform degeneration

will be necessarily limited to the part of the chorion which is in contact with the decidua serotina."

I am not aware of any authentic case on record, where a quantity of these cysts was expelled with a living fœtus belonging to the same ovum. That one of the ova in a twin pregnancy may become affected with cystic disease, whilst the other remains healthy, seems theoretically possible, but is extremely rare. In the last volume of the *Transactions of the Obstetrical Society of London,* Dr. J. Hall Davis publishes a case which he considered to be an instance of this kind. The woman calculated that she was six months advanced in her fifth pregnancy. Labor was induced by the douche, in consequence of recurring attacks of hæmorrhage. The fœtus was born alive, but only lived for a few minutes. The placenta was entire, of healthy appearance, and quickly followed the child. Subsequently, but quite distinct from the placenta, a mass of hydatids, equalling in bulk about a pint and a-half was thrown off. There can be no doubt this was, as Dr. Hall Davis supposes, a twin conception; and it is no less certain that each placenta was isolated. A case is quoted by the same writer, in which the placentæ were united into one mass (as often occurs with twins); and yet one ovum was degenerated into a hydatiginous mass, and the other contained a living fœtus.

Whether a retained bit of placenta can become the seat of a cystic growth is much to be doubted. Upon this interesting point, a recent writer, already quoted, Dr. Graily Hewitt, thus expresses himself: "The only circumstances under which hydatidiform bodies might be subsequently expelled from the uterus, and give rise to the supposition that they arose from a degeneration of a retained placenta, are, as I believe, the following :—Firstly, in cases of double conception, when one embryo having perished at an early period, the membranes thereto belonging have undergone the hydatidiform degeneration and are not expelled from the uterus together with the normal placenta." "A *second* possible case is, that a portion of the chorion villi may become separated organically from the fœtus at an early period, and undergo

the hydatidiform degeneration whilst the remainder grow and nourish the fœtus up to the full time."

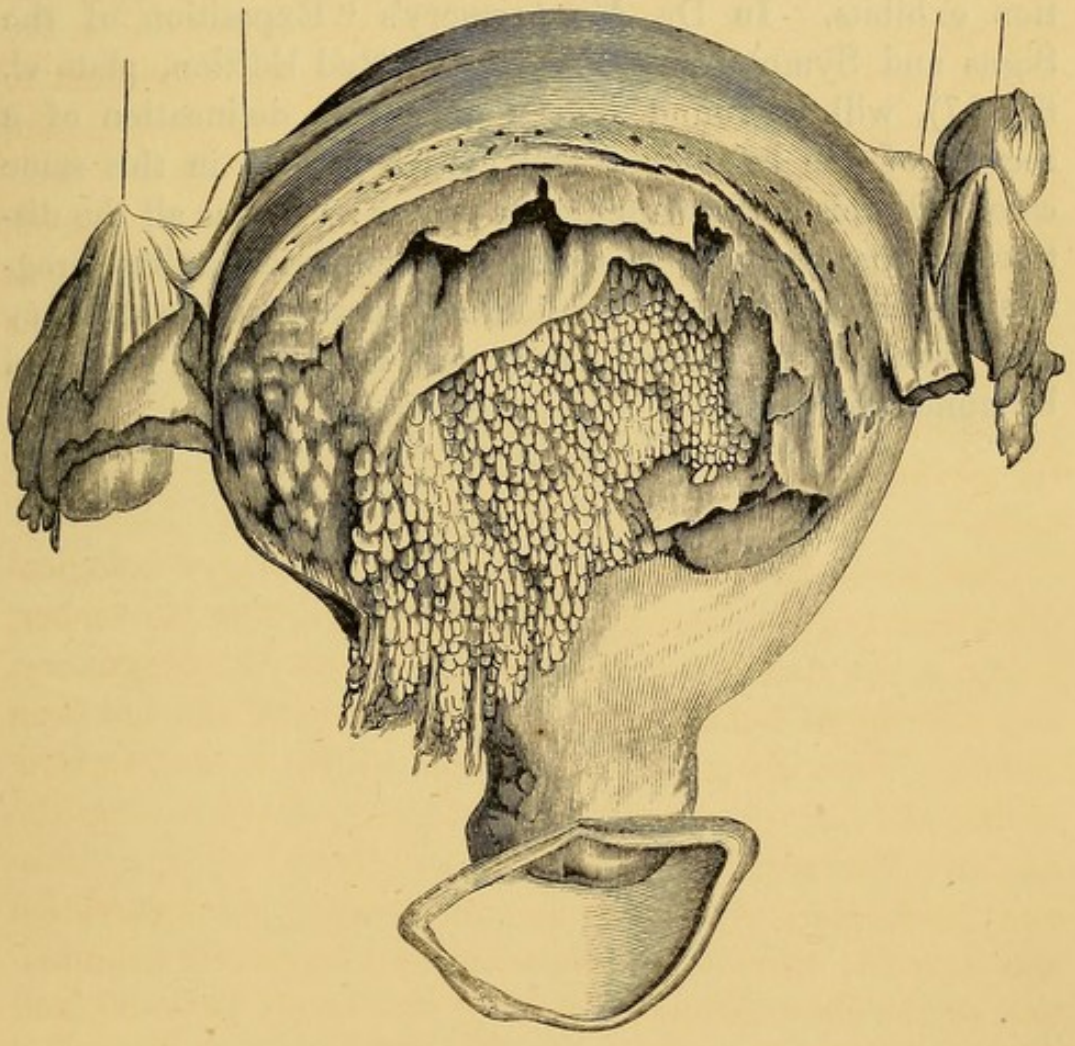
Respecting the *treatment* of this complaint, there is little I need say. The great source of danger is the hæmorrhage, which is to be treated on nearly the same principles as that in abortion, or as accidental hæmorrhage. We should try and induce uterine action; or, if this be already present, but not sufficient to restrain the sanguineous discharge within moderate bounds, we must employ such means as will increase the force and frequency of the pains. If the hæmorrhage be severe, and the uterus not enlarged beyond what it is in the fourth or fifth month of gestation, it may be expedient to plug the vagina. As soon as strong regular pains come on, there generally is an end of the hæmorrhage.

In *three* of the nine cases on which this memoir is based, the amount of hæmorrhage was only trivial; in *three* it was moderate; and in the remaining *three* the hæmorrhage was excessive. One of these last patients died, and her case possesses so many points of interest that no apology is needed for giving here a detailed history of it, omitting the treatment.

Case 5.—J. L. aged 21, was admitted to the gynecological department of the Lying-in hospital, on the 21st November, being, as she stated, four months gone in her first pregnancy. For a fortnight before coming to the hospital she had been suffering from dyspnœa and œdema of the face and extremities, and had also repeated discharges of blood from the uterus. Her state on admission was as follows: the face and extremities were slightly œdematous; the respiration was hurried; there was some cough, but a careful examination of the chest detected nothing abnormal; pulse 90, and weak. The uterus was on a level with the umbilicus, and felt more firm to the hand than the gravid uterus ordinarily does. She had not felt anything like fœtal movements, nor could any audible sign of pregnancy be discovered. The os uteri was closed, its lips thick, and the cervix fuller than natural. The breasts did not present any characters strongly indicative of pregnancy. From this time until December 3rd,

she continued free from any loss of blood, and was recovering her strength; but on the evening of this day very smart hæmorrhage took place, and floating in the blood discharged from the uterus were a number of hydatic cysts or vesicles. The next day found her somewhat improved, but still excessively weak. At mid-day she sat up in the bed to take a drink, whereupon she fell back and instantly expired. On examination, *post mortem*, the heart and lungs were

FIG. 35



Uterus laid open and exhibiting cystic disease of the ovum. The two layers of the decidua are well seen.

found to be healthy. The walls of the uterus were nearly half-an-inch in thickness; its interior was occupied by a collection of cysts, varying in size from a currant downwards. The mass was connected with the uterine parieties by a double

membrane, evidently the decidua vera, and decidua reflexa, to the latter of which the vesicular growths intimately adhered. No trace of an embryo could be anywhere discovered, but in the left ovary was a true corpus luteum, which, judging from the size of its central cavity, would seem to indicate the period of pregnancy to have been about the same as that assigned by the patient.

This uterus with its contents is preserved in the museum at the Lying-in hospital. The annexed engraving (fig. 35) represents the appearances which this magnificent preparation exhibits. In Dr. Montgomery's "Exposition of the Signs and Symptoms of Pregnancy" (2nd Edition, plate vi. fig. 17), will be found a very admirable delineation of a section of the left ovary and corpus luteum in this same case. Of this corpus luteum he writes: "It has all the distinctive characters of that which accompanies healthy pregnancy, well marked, is of considerably more than the ordinary size, with a large central cavity, and its substance pervaded by numerous vessels."

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